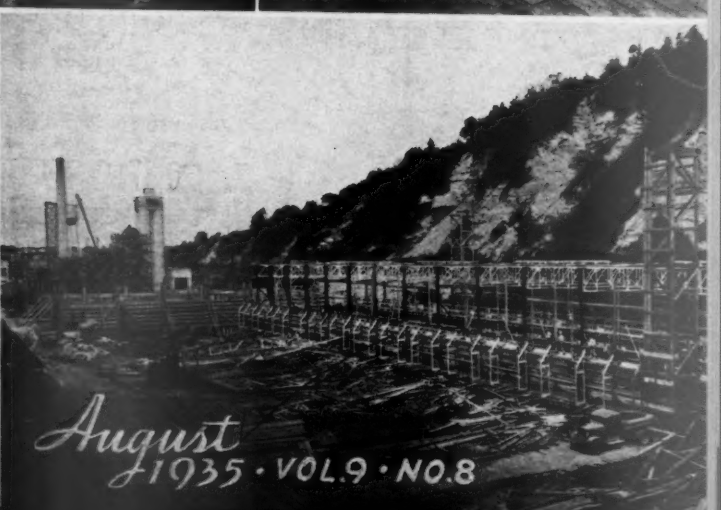
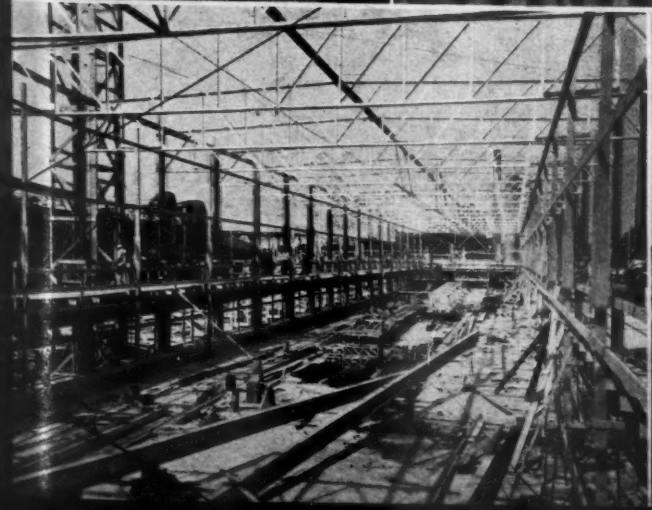
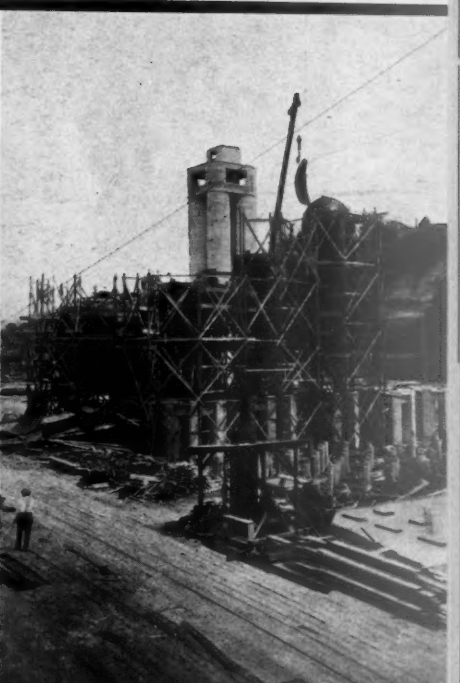
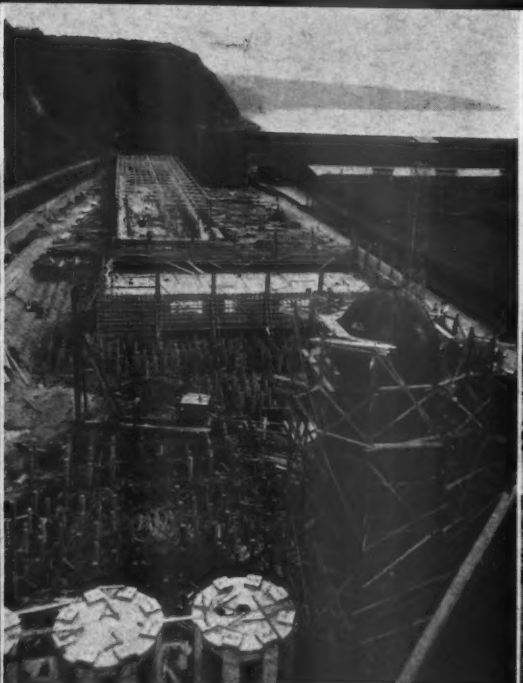
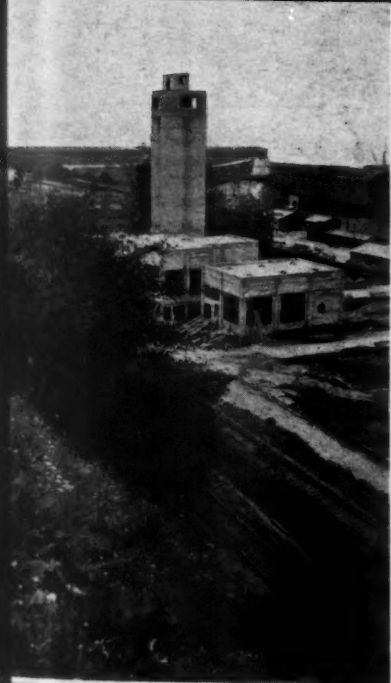


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UNITED STATES PULP AND PAPER INDUSTRY SHOULD BE DEVELOPED SAYS REPORT TO SENATE

States Next Decade Will See Growth in Pacific Northwest, Alaska and South

WITH the recommendation that it would be wise public policy for the Federal government to encourage the expansion of the American pulp and paper industry in the Pacific Northwest, Alaska and in the South, the factual portion of the report entitled "National Pulp and Paper Requirements in Relation to Forest Conservation," made to the United States Senate, July 12th, by Secretary of Agriculture Henry A. Wallace, stands out as the strongest argument so far advanced in a Federal government publication for further sound development of the industry on the Pacific Coast.

The authors of the report go even further, saying, "There are indications that the American pulp and paper industry, especially in the South and the Pacific Northwest, will probably greatly enlarge its plant capacity in the next decade or two, regardless of government aid or encouragement."

Was the Report Re-Written?

The report, known as Senate Document 115 was prepared in response to a Senate Resolution introduced in March, 1934, by Senator Hale of Maine. (The

Dr. C. E. Curran, in charge Pulp and Paper Section, Forest Products Laboratory, and C. Edward Behre, director, Northeastern Forest Experiment Station, are the original authors of the report and they evidently performed a very thorough piece of work in correlating available data and in drawing the logical conclusions which emphasize the great value to this country of becoming more self-sufficient in the production of pulp and paper.

Credit is also given in the report to Charles W. Boyce, executive secretary of the American Paper & Pulp Association, for cooperation in furnishing data on the industry and for permission to use material from his earlier publications. W. H. Gibbons and R. V. Reynolds are mentioned as having assisted in the preparation of statistical material and in review of the manuscript.

Hale Resolution appears elsewhere in this article).

It took more than a year and three months for the Department of Agriculture to prepare the report from data already available. The delay was apparently caused by an effort to reconcile the facts with the foreign trade theories of the administration as expressed in the Reciprocal Trade Agreement Act, which is in direct opposition to the principle of national self-sufficiency.

Quoting from the June, 1935, issue of this journal:

"Inquiry in January of this year resulted in information that the report was nearly ready. Later inquiries were met with excuses of various kinds, the latest being given on May 8th. On this date a Pacific Coast Senator was informed in a letter from a responsible official of the Department of Agriculture that,

"The report is far advanced toward completion. A number of complex questions involving international trade and the relation of pulpwood growing and pulp and paper manufacture to agriculture and to other industries is involved, however, and to work these out satisfactorily it is taking much more time than was anticipated. It is hoped that the report can be completed and submitted in the immediate future."

Upon reading the report it is evident that the job of "working these out satisfactorily" turned out to be impossible from the point of view of those who oppose the building up of domestic industry and the providing of more employment for Americans through the reduction of imports.

Further study of Secretary Wallace's report reveals numerous contradictory statements, not among the facts but in

the conclusions and recommendations.

It all tends to raise the question in the reader's mind as to the likelihood of the Wallace report having been rewritten several times by persons who were trying to persuade the facts to agree with their own opinions.

However, the basic facts in the report have not lost their force by the very evident effort to obscure them with a fog of doubt. It remains clear that a greater self-sufficiency in pulp and paper production would be of tremendous benefit to the entire United States.

The Letter of Transmittal

Secretary Wallace's letter to the President of the United States Senate accompanying the report reflects the contradictions appearing in the conclusions and recommendations in the detailed report itself. The program of development of pulp and paper manufacturing this country ought to follow is just as evident in Mr. Wallace's letter as it is in the report.

He says he doesn't know whether it would be best to become self-sufficient in pulp and paper production or not, but he advises the country just the same by saying a policy of self-sufficiency would not be consistent with the Reciprocal Trade Agreements and he doesn't want to help develop the industry through tariff protection. If the pulp and paper industry can grow without help, Mr. Wallace doesn't see what can be done about it.

The case for greater American self-sufficiency in pulp and paper production is so strong neither Mr. Wallace nor those who apparently rewrote the report dared to go so far as to recommend outright opposition to further sound growth of our domestic industry.

The Analysis

On a separate page appears an analysis which has been prepared to show quickly the contents of the report. The advantages of the United States becoming self-sufficient in pulp and paper production are enumerated in the left hand column, while at the right the disadvantages are listed. Below the disadvantages appears a factual refutation of the agricultural export argument, one of the two presented.

The manifold benefits to be derived by the United States as a whole from a policy of self-sufficiency in pulp and paper production are clear cut, and oddly enough, these benefits are all directly in line with the often stated primary aims of the Roosevelt administration.

Increased employment, benefits to agriculture, benefits to the lumber industry, aids to forest conservation, and contributions to economic and social security are the main headings under which the benefits from a policy of self-sufficiency fall. Are not all of these proclaimed as purposes of the present Federal administration?

He goes on to say that "cessation of pulp and paper imports might (note the 'might') impede recovery and might cause additional unemployment in those portions of agriculture and industry dependent upon exports. No definite estimate can be made as to how large these indirect costs of self-sufficiency would be."

But we can get a pretty definite idea of how much these indirect costs would NOT be by examining the agricultural import and export tables appearing on the same page with the analysis. These tables show that any loss of agricultural exports to the three countries from whom we buy more than 86 per cent of our imported pulp and paper would be inconsequential.

Loss or Profit to Industry

With the matter of agricultural loss through American self-sufficiency in pulp and paper production disposed of as a factor or no consequence we turn to Mr. Wallace's claim that industrial employment might be affected by a loss of exports of manufactured products to the countries from whom we buy our pulp and paper.

The report itself answers Mr. Wallace's argument as follows, quoting directly:

"The increased direct employment which self-sufficiency in pulp and paper would provide might represent a transfer of employment from export industries because cessation of pulp and paper imports might involve corresponding decreases in the production for export of such products as cotton, wheat, automobiles, etc. The offsetting wage value of our export trade affected by pulp and paper imports being indirect and diffuse, cannot be definitely estimated."

Continuing to quote:

"Stability of Communities"

"The additional direct employment and the volume of other business which self-sufficiency in the paper and pulp industries would entail would be spread over many sections of the country. It would be particularly valuable in the development of stable communities in the South and the Far West, where substantial industrial development is especially desirable for both social and economic reasons. If planned in relation to sustained yield capacities of adjacent forests, this expanded industry should lend much stability to the communities involved at the same time that it is stimulating their growth. This would be of

LETTER OF TRANSMITTAL*

Department of Agriculture,
Washington, D. C., July 12, 1935

THE PRESIDENT OF THE UNITED STATES SENATE

Sir: I have the honor to submit herewith a report entitled "National Pulp and Paper Requirements in Relation to Forest Conservation", prepared by the Department pursuant to Senate Resolution 205 (73d Cong., 1st sess.), introduced by Senator Frederick Hale.

Whether the United States can meet present and future requirements for pulpwood, pulp, and paper resolves itself into two questions.

The first involves physical factors, the growing of pulpwood and the availability of pulping processes. Under adequate forest management the answer is unquestionably, "yes".

The second involves competitive factors. Although a period of stiff competition appears inevitable, it *seems probable* that in the long run we should be able to meet foreign competition successfully, especially since increasing world consumption may be expected to exert greater pressure on diminishing timber supplies in most exporting countries.

Expansion of the pulp and paper industry with commensurate provision for growing the necessary pulpwood would advance the national program of forestry. It may well be coordinated with the production of saw timber on a sustained-yield basis and *might* eventually contribute directly toward productive use from 100 to 200 million acres of forest land. Indirectly it *might* affect the use of the entire 500 million acres of commercial forest area. Without the incentive for proper forest management which prospective markets through established wood-using industries afford to capital, private forest lands will tend to become or remain non-productive. *Pulp and paper industries cannot be supported indefinitely without sustained yield forest management, but on the other hand, a national forestry program must depend upon stable industries to utilize its products.*

Expansion of the pulp and paper industry *might* also contribute beneficially toward social and economic security in a number of ways. It *might* provide substantial support for rural-industrial communities in several sections of the country; it *might* aid agriculture by affording farmers a market for their woodland products and otherwise; it *might* provide a much needed source of industrial employment; and it *might* be an important factor in land use plans and adjustments. But to the extent that imports are cut off, these benefits *may* be offset by resulting losses of foreign markets and reduction of opportunities for employment in production for export, both in agriculture and industry.

Whether it would be for the best interest of the country to become completely self-sufficient in wood pulp and paper, or whether it would be best to continue to import part of our requirements in exchange for commodities we export, *cannot be accurately forecast at this time*. The government is now engaged in trade negotiations aimed at restoration of our previous export trade in farm and industrial products as directed by Congress in the Reciprocal Tariff Act.

Worthwhile results have already been accomplished and these efforts to reestablish trade should be continued.

In view of these considerations, it *does not seem wise* to recommend that the United States strive to become fully self-supporting in paper and pulp requirements. But since forests can neither be organized nor industries established overnight, the highest public interest requires that a far-sighted national policy, which will conserve and restore the productivity of our forests, be outlined and pursued so that the nation will not be unprepared for possible future needs.

All things considered, the safest course seems to be to go ahead with the national program of forestry as presented in Senate Document 12, Seventy-third Congress, first session, which will require several decades to become fully effective, *to give every public countenance and encouragement short of subsidy or tariff to the development of the American pulp and paper industry and to place no obstacles in the way of replacement of existing imports by the domestic industry in open competition.*

Sincerely yours,

H. A. WALLACE, Secretary.

*The italics are our.—Editor.

importance in the planning for schools, roads, water supplies, and other matters with which local government is concerned.

"The stability of industry and communities which the pulp and paper industry might assure, if wisely planned, would be in part a result of the relatively large plant investment required by the industry. Under present conditions approximately \$30,000 capital investment is required per ton of daily paper ca-

capacity. An increase in paper mill capacity which might amount to 10,000,000 tons a year would involve an investment of almost \$1,000,000,000 (one billion) and in addition self-sufficiency would require \$84,000,000 of new capital to bring pulp production up to the full capacity of existing paper mills. Capital investments and pay rolls of the order indicated would have very substantial effects in creating additional taxable values in the communities involved. (Cont. on page 6)

AN ANALYSIS OF SECRETARY WALLACE'S REPORT TO THE SENATE

From a comparison of the arguments for and against the United States becoming self-sufficient in the manufacture of pulp and paper, as presented by the Secretary of Agriculture in his report to the Senate in response to the Hale Resolution, the reader can readily draw his own conclusions as to the logical, sensible course this country ought to follow.

The points in the left-hand column are briefed for the sake of clarity. Those in the right hand column are quoted verbatim from the report.

ADVANTAGES OF THE U. S. BECOMING SELF-SUFFICIENT IN PULP AND PAPER PRODUCTION

INCREASED EMPLOYMENT — Imports in 1929 represented wage values of 70,000 men—nearly half as many as were employed in entire domestic industry.

THE FUTURE—Report estimates increased paper consumption will within two or three decades furnish full time employment to 385,000 men or 243,000 more than were employed in the industry in 1929. Wages would be \$588,000,000 yearly or an increase of about \$372,000,000 over the amount paid in 1929.

BENEFITS TO AGRICULTURE—Aid diversification of agriculture by providing farmers with new outlets for timber, truck crops, dairy and poultry products—

Open up part-time employment to rural communities through seasonal work in the woods or part-time use of teams and trucks in supplying the mills with raw materials—

Thereby raising some submarginal land to a level of profitable operation—

By providing economic use of land not suited to agriculture—Development of rural industries would tend to lighten the farmer's share of local tax burdens.

BENEFIT TO LUMBER INDUSTRY — By providing market for small trees and waste wood at present unprofitable to handle.

BENEFIT TO FOREST CONSERVATION—Would stimulate conservation by enabling lumber industry to operate on sustained-yield basis through utilization of small trees—Provide incentive for proper forest management by affording additional markets for timber—Would give timber a greater value—If timber is not given a greater value the burden of maintaining forest lands will have to be borne largely at public expense—

Would contribute directly to productive use of from 100 to 200 million acres of forest land—Indirectly affect the use of the entire 500 million acres of forest land in the U. S.

WOULD CONTRIBUTE TO ECONOMIC AND SOCIAL SECURITY BY—

Providing support for stable rural-industrial communities in the South, the Far West and Alaska.

Aid agriculture by affording farmers a market for timber and other products.

Provide a much needed source of industrial employment.

By adding to taxable values, both of the forests and of industrial plants through additional paper mill capital investment of \$1,000,000,000 and additional capital investment in pulp mills of \$84,000,000—Additional payrolls would also increase taxable values.

DISADVANTAGES

"An immediate attempt to establish national self-sufficiency in these products would not be consistent with policies of the administration for restoration of foreign trade, especially in agriculture products."*

(The above quotation refers to the Reciprocal Trade Agreements.—Editor)

"Cessation of pulp and paper imports might impede recovery and might cause additional unemployment in those portions of agriculture and industry dependent upon exports."

"No definite estimates can be made as to how large these indirect costs of self-sufficiency would be."

*Editor's comment.

In the Secretary of Agriculture's report to the Senate it is stated that in 1933 Canada took but 6 per cent of the total U. S. exports of agricultural products and that Sweden and Finland together took but 2 per cent of the total 1933 U. S. agricultural exports of \$757,835,074.

Since the Secretary's report also states that there is danger of injuring our agricultural exports by developing the American pulp and paper industry to a point of self-sufficiency, it is important that we examine the actual export and import figures on agricultural products as it affects the U. S. and Canada, Sweden and Finland, the three countries who sell us more than 86 per cent of our imported pulp. Here are the facts:

UNITED STATES IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS 1933

Canada	
Exports to Canada.....	\$39,140,204
Imports from Canada.....	39,242,969
Balance in favor of Canada.....	\$ 102,765
Sweden	
Exports to Sweden.....	\$ 8,357,896
Imports from Sweden.....	1,296,686
Balance in favor of U. S.....	\$ 7,061,210
Finland	
Exports to Finland.....	\$ 1,966,295
Imports from Finland.....	609,688
Balance in favor of U. S.....	\$ 1,356,607

Note that in 1933 Canada sold the U. S. slightly more agricultural products than the U. S. sold Canada.

In the agricultural trade with Sweden and Finland in 1933 the result was but \$8,417,817 in favor of the U. S., an inconsequential figure compared with total U. S. agricultural exports of \$757,835,074.

Total U. S. agricultural exports to these three countries in 1933 totaled \$49,464,395, or less than 7 per cent of the total agricultural exports for the year.

The agricultural export argument as a sound reason for not developing our own pulp and paper production, falls of its own weight.

"Aid to Agriculture"

"But these possible benefits from a larger domestic paper and pulp industry would perhaps be of more significance to agriculture and rural population than to any other elements in our economic structure."

The above quotations taken verbatim from the report submitted to the U. S. Senate by Secretary Wallace show that the advantages of self-sufficiency in American pulp and paper production are very definite while the disadvantages "cannot be definitely estimated."

Employment

In addition to the increased employment estimates given in the analysis and which were taken from the report, Secretary Wallace overlooked taking into consideration the very great increase in employment in American heavy industries which would result from a development of American pulp and paper manufacturing facilities. Employment would be provided for skilled workmen in building paper machines and other equipment necessary for pulp and paper manufacture. And further, an enlarged industry would support a far larger group of industries employing thousands of people in manufacturing supplies for consumption in the mills.

Former Foreign Trade Is Gone for Good

Although the administration is straining to restore foreign trade the reason is hard to understand for foreign trade even in our best years never exceeded 8 per cent of our total volume of trade domestic and foreign. It is hardly worth sacrificing American industries or opportunities to develop American industries which would alleviate much of our unemployment problem, to try and regain a total of 8 per cent of our former total trade.

It is obvious to those who have an understanding of the foreign trade situation, that the old foreign trade no longer exists in actuality. The countries of the world are becoming more self-sufficient, with the exception of the United States. No longer does this country enjoy the advantage of low cost industrial production which formerly enabled it to compete in world markets on a price as well as a quality basis.

Other nations have become mass production producers and with lower labor costs are not to be dislodged from their present dominate exporting position by our products made at higher costs.

Witness the case of Japan.

In agriculture the same is true. American cotton exports dropped 40 per cent in the first six months of 1935 compared to the same period of 1934. It is becoming painfully apparent that American cotton cannot regain its lost world markets because its price under AAA control has become so high other nations without AAA control have found it profitable to raise cotton. Brazil is the outstanding example.

Brazil has more than doubled its cotton production for export in 1935 over 1933. The Brazilian crop sold at the world price which is lower than the American price, due to the AAA price pegging, netted a profit. In 1934 Brazil obtained foreign credits in return for cotton exported of \$30,000,000. In 1935 the foreign credits accruing from the export of cotton will add another \$50,000,000.

Brazil is selling cotton to former American customers. This market is gone and no Reciprocal Trade Treaty is going to bring it back, nor will the im-

THE HALE RESOLUTION

Senate Resolution 205 introduced by Senator Frederick Hale of Maine, in the second session of the 73rd Congress, and passed by the Senate, reads as follows:

"Resolved, That the Secretary of Agriculture be, and he is hereby requested to submit to the Senate at his early convenience a report based on information already available covering—

(a) The extent to which the United States now depends upon imports of pulpwood, pulp and paper to meet national requirements;

(b) Whether and the extent to which it is now possible with known pulp and paper processes to supply from the forest lands of the United States all of the pulpwood needed to meet the national pulp and paper requirements;

(c) What adjustments are feasible and necessary and what program of forest conservation is recommended for the immediate and more distant future by the Federal Government, the states, the pulp and paper industry, and private owners of forest lands to make the United States self-supporting in its pulpwood, pulp and paper requirements; and

(d) Whether it would advance or retard the program of forest conservation to make the United States self-supporting as to pulpwood, pulp, and paper requirements from American forests."

portation of pulp help bring back this business. Cotton exports can only be built up by reducing the American price to the world price.

If the world price for cotton is ruinous to American producers in the South, would it not be wise to furnish the cotton growers with an incentive to raise some other crop such as pulp timber?

Report Disagrees with Administration's Foreign Trade Ideas

The report itself says there is no hope to extend exports on agricultural products and recommends that export crops such as cotton be replaced with timber. We quote directly:

"Significant as these trade negotiations may be (Reciprocal Trade Agreements), current world conditions offer no immediate prospect of restoring agricultural exports to their former volume. As far as can be seen now the United States must think in terms of curtailed foreign outlets for its agricultural products and that this means continued adjustment of acreage devoted to agricultural crops, with expansion only as domestic and foreign markets expand. . .

"Such an adjustment may be illustrated by cotton, about two-thirds of which has been exported in the past. While it appears that the volume of cotton exports depends mostly on foreign purchasing power which may be influenced by imports into the United States, cotton is subject to increasingly severe foreign competition in physical production which is not so influenced. Difficulties in marketing this crop might therefore, be relieved in part by diverting to timber growing lands found to be submarginal for cotton. At the same time the forest industries which might be developed would be of substantial benefit to the farmer on the better lands."

Why Not Face the Facts?

Why the administration avoids facing the facts is beyond understanding. It continues on the theory that American employment can be increased by importing foreign made products which in turn might mean the foreigners might buy more from us. As one Pacific Coast pulp producer said, "It seems a round-about way of trying to put our own people to work and an ineffectual one for foreign trade never did build nor supply a material percentage of our national productive capacity."

Pacific Coast in the Factual Report

In the data presented in the factual portion of the Wallace report the Pacific Coast and Alaska is shown to possess large potential production possibilities. It is also stated that any expansion in the pulp and paper industry in the United States will have to come in the Pacific Northwest, Alaska and in the South. Another heading states, "South and Pacific Coast Regions Dominate Prospective Future Production."

"Pacific Coast Points Way for South and Northeast," is another division of the report. This deals with the development on the Pacific Coast in integrating pulp and lumber manufacture.

Further Development of Industry Certain

The authors of the report are definite in their conviction that the pulp and paper industry in the United States will steadily develop, and that a very large portion of this development will be on the Pacific Coast and in Alaska.

In closing their report the authors state:

"Dependence upon imports without provision for forest conservation may lead to serious and prolonged maladjustments in paper requirements should foreign sources later prove inadequate. Not only would it be impossible to rehabilitate depleted forests without a long-time program of conservation, but also years would be required to enlarge pulp and paper manufacturing plant capacity in proportion to prospective future requirements. Adequate provision for future needs can only be assured by initiating a comprehensive program of forest conservation and expansion of industry looking toward a large measure of future self-sufficiency but conceived and executed with due regard for agriculture and other aspects of our national life.

"Such a program would seem to be wise public policy, although it may involve some adjustment of our foreign trade, because expansion of pulp mill capacity in this country has proceeded even during the years of depression, and indications are not lacking that new installations will continue. The pulp and paper industry, especially in the South and the Pacific Northwest, seems likely to forge ahead in the next few decades without reference to Government aid or encouragement, or other considerations."

It is comforting to know that the Pacific Coast will not have to rely upon the Government for its development of the pulp and paper industry, and that the industry will go ahead in the future along sound lines in spite of Reciprocal Trade Agreements and other theories which are proving unworkable in a practical world.

The report reviewed in this article covers 74 pages. It may be obtained for ten cents from the Superintendent of Documents, Washington, D. C. It is Senate document 115, 74th Congress, 1st session, National Pulp and Paper Requirements in Relation to Forest Conservation.

CROWN-ZELLERBACH FORMS RESEARCH DEPARTMENT

Dr. E. C. Lathrop Appointed Director

The Research and Development Division of Crown-Zellerbach Corporation has been formed to unify and coordinate the extensive development, research and quality control activities of the various divisions of the corporation.

Dr. E. C. Lathrop will head this division, which comprises the technical departments of each operating unit, as Technical Director of the Crown-Zellerbach Corporation.

His headquarters will continue to be at the Camas mill of the Crown-Willamette Paper Company, of which he is also the technical director.

Dr. Lathrop joined the Crown-Willamette organization as technical director in June, 1934, bringing with him a wealth of experience in research work. His early education was obtained at the old Portland Academy in Portland, Oregon. Upon graduation Dr. Lathrop went to DePauw University from which he graduated in 1907 with his A. B. degree in chemistry. After several years of teaching and work as an analytical and consulting chemist he obtained his doctor's degree from American University in 1916.

Dr. Lathrop's research work began in 1909 as biochemist in the laboratory of Soil Fertility Investigations, U. S. Department of Agriculture. In 1918 he left the Department of Agriculture to join the chemical department of E. I. DuPont de Nemours Company, where he organized and managed the general division of the Jackson Laboratory, dyestuff industry. In 1919 he organized and became manager of the standards division of the DuPont chemical department in Wilmington.

Leaving DuPont in 1922, Dr. Lathrop entered consulting work as vice-president and a director of Samuel P. Sadtler & Co., consulting chemical engineers of Philadelphia, Pa. The same year the firm became consulting and directing chemists to the Celotex Company and Dr. Lathrop spent more and more of his time in Celotex research and control un-



til in 1925 he moved to Chicago and became director of the company's research and development department.

In 1932 Dr. Lathrop resigned from the Celotex Company of which he was then a member of the board of directors and entered consulting practice in Chicago.

In 1912 the Franklin Institute of Philadelphia awarded him the Edward Longstreth medal for that year in recognition of his achievements.

Dr. Lathrop is a member of the following scientific societies: Fellow, American Association for the Advancement of Science, American Chemical Society, American Institute of Chemical Engineers (chairman, Publications Committee for 1925), American Society of Testing Materials (organized committee b-3 and chairman 1921-25), Technical Association of the Pulp & Paper Industry, and the Society of Chemical Industry (England).

AMERICAN CHEMICAL SOCIETY TO MEET IN SAN FRANCISCO

At the meeting of the American Chemical Society in San Francisco, August 21st a symposium will be presented on "Wood as a Raw Material for Chemical Commodities."

Dr. Henry K. Benson, head of the Department of Chemistry of the University of Washington will lead the symposium with an introduction. The detailed program follows:

1. Introduction (10 min.), by Chairman H. K. Benson, University of Washington, Seattle, Wash.
2. Sub-microscopic Structure of Cellulosic Fibers (20 min.), O. L. Sponsler, University of California at Los Angeles.
3. Micellar Structure as Related to Cellulose (20 min.), James W. McBain, Stanford University, Calif.
4. The Polyuronides of Wood (30 min.), Ernest Anderson, University of Arizona, Tucson, Ariz.
5. Lignin of Wood (30 min.), Walter M. Fuchs, New Jersey Agricultural Experiment Station, New Brunswick, N.J.

6. Chemical Derivatives of Wood (30 min.), Ralph E. Montonna, University of Minnesota, Minneapolis.

GRAYS HARBOR BUYS SUCTION PRESS

The Grays Harbor Pulp & Paper Company in June ordered a Beloit suction press which is to be installed on the pulp machine.

TAYLOR VISITS U. S.

F. C. Taylor of Kobe, Japan, representative in the Orient for the Rainier Pulp & Paper Company, visited the Pacific Coast in August.

ANACORTES RESUMES OPERATIONS

The Anacortes, Washington mill of the Puget Sound Pulp & Timber Company resumed full operations July 19th, after having been shut down for several weeks by the lumber strike which affected the Morrison mill, supplier of steam to the pulp mill.

CROWN-WILLAMETTE EARNINGS UP

Continuing the upward trend of recent years, consolidated net profit of Crown-Willamette Paper Company and subsidiaries, including Pacific Mills, Ltd., a Canadian subsidiary, after all charges for depreciation, depletion, bond interest and income taxes, and after deducting minority stockholders' interests in profits of Pacific Mills, Ltd., aggregated \$1,467,615, or \$7.33 a share on the first preferred stock. For the preceding fiscal year earnings equaled \$1,129,680., equivalent to \$5.65 a share on the first preferred.

Dividends paid during the 1935 fiscal year totaled \$5 a share on the first preferred, compared to \$4 in 1934. As of April 30, 1935, dividends in arrears amounted to \$11 a share on the first preferred and \$24 a share on the second preferred. No dividends were paid on the latter stock during the year.

Financial Position Sound

The sound current financial position of the company was maintained during the past year. With cash, U. S. and Canadian government bonds amounting to \$3,508,016, total current assets aggregated \$11,820,153, against current liabilities of \$3,861,719. Included in current liabilities is \$1,124,550 set aside for retirement of \$1,102,500 of Pacific Mills, Ltd., first mortgage 6 per cent bonds called for redemption on August 1, 1935.

Louis Bloch, president, in his report to the stockholders stated: "The increase in earnings this year is explained by an improvement in sales volume which, expressed in dollar sales of your companies' diversified lines of paper products, is about 7 per cent greater than the preceding year. The increase in tonnage volume accounts for practically all of the increase in dollar volume. There has been no change during the past two years in the selling price of newsprint paper, which was reduced in June, 1933, to \$40 a ton, delivered Pacific Coast ports. Notwithstanding an increase of more than 15 per cent in newsprint tonnage, our manufacturing costs of newsprint during this period have substantially increased, due to higher costs of labor and materials. It is to be hoped that efforts to stabilize newsprint prices at higher levels will have some degree of success in the near future, so that your company may receive a reasonable profit on this substantial tonnage."

The San Francisco Curb Exchange has been notified that at the annual meeting of stockholders August 13th, first and second preferred stockholders will be given share-for-share voting power with common stockholders.

The Cover Photographs

show the progress made to August 1st in the construction of the second unit of the Pulp Division Weyerhaeuser Timber Company.

The mill now being built on the waterfront at Everett, Washington, will be completed early in 1936, and is to produce 150 tons daily of unbleached sulphite pulp.

TAPPI HOLDS DINNER MEETING AT CAMAS

With some 65 in attendance a dinner meeting of TAPPI was held at Crown-Willamette Inn, Camas, Wash., July 25. It was an enthusiastic meeting, over which W. R. Barber of the Crown-Willamette Paper Co., Camas, presided. Myron Black, chairman of the Pacific Division, was in attendance from Spokane.

Music was provided by Dr. H. Prelinger, of the research staff of Crown-Willamette, at Camas. Dr. Prelinger played his own compositions. A letter of invitation from Dr. H. K. Benson, of the University of Washington, urging any interested members of TAPPI, who may be in San Francisco next month during the meeting of the American Chemical Society, sit in on the presentation of the symposium on wood as a raw material for various industries.

The speaker of the evening was Dr. Henry Hartman, of the department of horticulture, Oregon State College, Corvallis, Ore., who spoke on the use of paper wraps and pulp containers in the preservation and shipment of fruits and vegetables. In introducing the speaker Mr. Barber stated that the Northwest fruit crop now requires about 7,000 tons, or 350 cars, of tissue for wraps each year, of which approximately 5,700 tons are made on the Coast.

Dr. Hartman at the start of his talk, emphasized the need of tissue in the marketing of fruit both for the control of disease and as a means of preventing certain fungus diseases, as well as prevention of injury in handling. Numerous pictures, showing different types of disease, were shown.

Dr. Hartman traced briefly the history of the development of fruit wraps and predicted that research will develop further chemical treatments which will further extend the usefulness of the paper wrap. He pointed out, for example, that an oil wrap, in addition to

preventing scald, keeps the fruit in prime condition longer.

He then told of new wraps which have been tried. Metal foils have received some attention of late, especially in Italy. Lemons from Italy wrapped in metal foil, mostly aluminum, have been received in limited quantity upon the Atlantic Coast. Metal wraps were tried on apples and pears on the Pacific Coast, but made scald spread and hence are not suitable. Cork and sawdust for packing grapes is being tried, but the cost is higher than paper wraps.

Maximum tonnage of paper for shipment of fruit and vegetables has by no means been reached. Dr. Hartman expressed the belief that fibre boxes will be used extensively for the packing of apples. Experiments are being made in increasing number and it is his thought that the fibre fruit box will soon pass the preliminary experimental stage. Ventilation is one of the problems which must be worked out.

There is a growing demand for a smaller container. For example, the buyer for a large chain store organization in New York City recently conferred with him relative to developing a half size pear box. The buyer stated that half of his company's stores are so small that they could not handle a full size pear box.

Dr. Hartman also spoke of the development being considered by a number of fruit and vegetable shippers whereby the products will be packed in plain wrappers in plain containers and then repacked in display boxes and wraps at the distributing end. Bulk shipment of tomatoes is now under way, with repacking at the receiving end.

Myron Black, chairman of the Pacific Division of TAPPI, of the Inland Empire Paper Co., Spokane, spoke briefly, commending the enthusiasm of those present and told how the organization wants to serve the interests of all concerned.

factors of pulp and pulping treatment as affecting fiber and paper properties.)

Friday, Sept. 20

The Principle Governing the Formation of a Sheet of Paper

1. "Mechanical Treatment of Fibers as Affecting Sheet Structure", by R. H. Doughty, Fitchburg Paper Company, Fitchburg, Mass.

2. "Principles Governing the Arrangement of Fibers on the Fourdrinier Wire", by A. M. Lund, Mazer Paper Mills, Lansdowne, Pa.

Discussion

(a) From point of view of rag paper.
(b) From point of view of sulphite paper.

(c) From point of view of kraft paper.
(d) From point of view of ground-wood paper.

3. "For Formation of Cellulose Membranes", by Wanda K. Farr, Boyce-Thompson Institute, Yonkers, N. Y.

Saturday, Sept. 21

1. "Drying of Pulp and Paper II", "Effects of the Principal Variables on the Rate of Air Drying", "Mechanism of Drying of Pulp Sheets", by D. W. McCready, University of Michigan, Ann Arbor, Mich.

2. "Tolerance in White Water Losses", by C. M. Baker, American Paper and Pulp Association, Madison, Wis.

3. "Color Analysis and Specification", by Joseph Razek, University of Pennsylvania, Philadelphia, Pa.

4. "Effect of Temperature and Consistency in Mechanical Pulping", by E. R. Schafer and J. C. Pew, Forest Products Laboratory, Madison, Wis.

More than 250 reservations for rooms at the Ambassador Hotel have been received. Now is the time to make a reservation in order to obtain an excellent hotel room assignment. It is not necessary to be a member of TAPPI to attend the fall meeting.

BLANCHARD MOVES EAST

S. W. Blanchard, formerly assistant mill manager of the West Linn mill of the Crown-Willamette Paper Company, and lately connected with the special groundwood study program of the Crown organization, left July 15th for Leominster, Mass.

Mr. Blanchard has been selected by the Mead Corporation to be mill manager of the Wheelwright Paper Company of North Leominster. This mill was recently acquired by the Mead Corporation. It is a two-cylinder machine mill and produces approximately 38 tons daily of index and bristol boards.

LOCKPORT FELT MEN VISIT COAST

Mr. Lester J. Robinson, superintendent of production, and Mr. B. A. Audley, assistant treasurer of the Lockport Felt Company, Newfane, New York, arrived in Los Angeles July 15th.

Mr. Alan C. Dunham, Pacific Coast representative of Lockport with headquarters in Portland, met them at Los Angeles, and the three visited every mill from that city north to Vancouver, B.C.

From Vancouver on August 9th Mr. Robinson and Mr. Audley took the train for Newfane in Northern New York state.

BELVIN'S ADDRESS

The address of Mr. Charles H. Belvin, Jr., the new Pacific Coast representative of the Chromium Corporation of America is the Chasselton Apartments, 701 N. E. 28th Street, Portland, Oregon.

NEW COAST TAPPI MEMBERS

The Technical Association of the Pulp and Paper Industry reports two new Pacific Coast members.

Ernest Bakewell, formerly chemist for Pacific Mills Limited of Ocean Falls, B. C., is a member of the standing committee on forestry of the British Columbia Legislative Assembly. Mr. Bakewell graduated from the University of London in 1922.

A. J. Bailey, graduate student at the College of Forestry, University of Washington, Seattle, has become a junior member of TAPPI.

The president of the American Pulp and Paper Mill Superintendents' Association, Charles Champion, has joined TAPPI. Mr. Champion is mill manager for the Millers Falls Paper Company of Millers Falls, Mass.

FARMER ILL

Grant Farmer, board mill superintendent for the Los Angeles (Vernon) plant of Fibreboard Products, Inc., went to the hospital the last of July for an operation on a ruptured appendix. At last reports Mr. Farmer was still pretty well under the weather, but was believed to be on the way to recovery.

TAPPI FALL MEETING TECHNICAL PROGRAM

G. E. Landt, chairman of the program committee, has announced the following as the program for the fall meeting of the Technical Association of the Pulp and Paper Industry to be held at the Ambassador Hotel, Atlantic City, N. J., Sept. 18 to 21, 1935.

Thursday, Sept. 19

The Cellulose Fiber from the Standpoint of Paper and Pulp Manufacture

1. "The Morphology of the Cellulose Fiber", by Dr. G. J. Ritter, Forest Products Laboratory, Madison, Wis. (This paper covers the principles of fiber growth and structure of the more usual paper-making fibers, especially as related to problems of paper and pulp manufacture.)

2. "The Colloidal Aspects of the Cellulose Fiber", by Dr. B. W. Rowland, Institute of Paper Chemistry, Appleton, Wis. (Reviewing the characteristics and behavior of the fiber from a colloidal point of view.)

3. "Pulping Treatment and Fiber Properties", by Dr. G. A. Richter, Brown Company, Berlin, N. H. (The chemical aspects of pulping as affecting fiber properties. To develop the basic chemical

RAINIER LABORATORY UNDER WAY

The contract for the new research laboratory being built by the Rainier Pulp & Paper Company of Shelton, Washington, was let late in July to the Mullen Construction Company of Port Angeles, Washington, and construction is well under way.

The building will be cast in one solid slab of concrete, 46 feet wide, 172 feet long and the walls will be 13 feet high. Plywood forms will be used to provide a smooth outer concrete surface.

Ten separate rooms will house the various research divisions and the modern laboratory equipment which will be installed.

One of the features of the research laboratory will be a complete model rayon yarn spinning plant together with equipment for checking the reaction of various pulps in the rayon making processes. Later on a model cellophane making plant may be installed for testing the Rainier Company's pulp in the making of transparent cellulose films.

In addition to the main building another structure will house the experimental digesters and caustic tanks.

The entire research operation will be able to operate independently of the main plant operation.

The Rainier Pulp & Paper Company's large and experienced staff of research men under the direction of Dr. Russell M. Pickens, research director, will employ the facilities of the new laboratory in perfecting present pulps and in seeking new ways of utilizing wood cellulose and the waste liquor from the sulphite process.

Mr. David B. Davies has been general manager of the Rainier Pulp & Paper Company's operations since construction was finished and the plant began operating in 1927.

RAINIER REPORTS PROFITABLE YEAR

The report of the Rainier Pulp & Paper Company of Shelton, Washington, for the fiscal year ending April 30th, 1935, reveals a net profit of \$743,509 after depreciation, provision for losses experienced on the disposal of capital assets, and income taxes. This compares with a net profit of \$458,460 in the 1934 fiscal year and net profit of \$147,032 in the 1933 fiscal period.

The profit reported for the 1934-1935 fiscal year exceeded the net earnings of any previous fiscal year since the company began production in 1927. The decision to enter the rayon and cellophane pulp market in 1930 exclusively after several years of experimentation has been vindicated by the much improved net profit.

The conversion to rayon and cellophane pulp was expensive and was accomplished during the worst of the depression. It caused a heavy drain on resources, necessitated some new capital and resulted in the omission of dividends for nearly four years on its cumulative Class A stock.

Net profit for the year ended April 30 is equal, after allowing for one year's dividend requirement on the \$2 dividend Class A stock, to \$1.33 a share on 223,000 combined shares of Class A and B stock under the participating provision of the shares, and compares with 6c a share on the same number of combined shares in the preceding fiscal year. All the Class B stock—123,000 shares—is privately held.

There is an arrearage of \$383,333 or

\$3.83 a share on the 100,000 shares of cumulative \$2 Class A stock, and the Class B stock is not entitled to participate in earnings until after the arrearage has been eliminated. After allowing for all dividends in arrears on the Class A stock, last year's net profit is equal to 51c a share on the 223,000 combined shares of Class A and Class B. Profit of \$458,460 in the 1934 fiscal year did not cover the accumulations of back dividends on the Class A stock, which then amounted to \$683,333 on April 30, 1934. Consequently, all net profit in that year was applicable only to the Class A stock and was equal to \$4.58 a share on the 100,000 shares outstanding.

Last year dividends totaling \$5 a share were paid on the A stock, aggregating \$500,000, and the company ended its fiscal period in excellent financial condition. As of April 30, current assets totaled \$1,385,979, including \$566,453 cash, and current liabilities totaled \$549,480. A year previous, current assets totaled \$1,362,997, cash \$667,956, and current liabilities \$502,949.

PUGET SOUND TO INSTALL CHEMIPULP IN BELLINGHAM MILL

As part of a program of extensive improvements to further improve the quality of their unbleached sulphite pulp, the Bellingham mill of the Puget Sound Pulp & Timber Company will install a complete Chemipulp system of the latest type including pre-circulation.

The order was placed the latter part of July and the system will be in full operation December 1st.

A spherical acid accumulator of ample capacity is to be installed for acid storage. When completed the improvements under way will result in a cooking system of the most modern type. The Bellingham pulp mill produces 100 tons of pulp daily.

CHROME PLATING COMPANY OPENS PLANT IN PORTLAND.

The Chrome Plating Company, Inc., of Milwaukee, Wisconsin, A. F. Francis, president, has established an industrial chromium plating plant at Portland, Oregon, to serve the pulp and paper industry of the Pacific Coast.

The new plant, which began operating August 10th, is a one-story building 75x125 feet, located at the east end of the steel bridge at 903 N. Williams Street.

According to Mr. Francis the plating equipment will be large enough to handle pieces 23 feet long by 6 feet wide and 4 feet thick.

Mr. Francis has been engaged in industrial chromium plating work for the past nine years and is well known on the Pacific Coast.

Mr. Roy Sette of Chicago has arrived in Portland and will take charge of the new plant as works and sales manager. Mr. Sette has been engaged in industrial engineering for fifteen years and in industrial chromium plating for one year.

The general superintendent will be Mr. Joe Briody of Waterbury, Connecticut, who has had eight years' experience in chromium plating industrial equipment.

Mr. Francis announces that his organization has developed two new chromium plating processes, one a black chromium plate and the other a new white chromium which is tough enough for plating stamping dies. The latter plate will be, according to Mr. Francis, admirably suited to the plating of screen plates as it will not peel or chip.

**BRAZEAU APPOINTED MANAGER OF EVERETT MILL**

Mr. G. S. Brazeau, Chicago representative of the Pulp Division of the Weyerhaeuser Timber Company since its organization in 1931, has been appointed manager of the Pulp Division's second unit, the unbleached sulphite pulp mill now under construction at Everett, Washington. Mr. Brazeau arrived in Everett in July.

Steady progress is being made in constructing the Everett mill and operations are expected to begin early in 1936.

LARSON APPOINTED NEW YORK REPRESENTATIVE OF WEYERHAEUSER PULP DIV.

L. K. Larson has been appointed New York representative of the Pulp Division Weyerhaeuser Timber Company, according to an announcement by R. B. Wolf, manager of the Pulp Division.

Mr. Larson was formerly with Fraser Industries, Limited, spending several years in England in charge of the sale of Fraser products. While there he opened the London office. Returning to the United States in 1933, Mr. Larson remained with the Fraser organization until his recent appointment to the Weyerhaeuser sales staff.

Prior to his connection with Fraser, Mr. Larson was in charge of pulp sales in the Middle West for the Mead Sales Co. He will arrive on the Pacific Coast in August for a visit of several weeks.

Henry F. Bigelow is in charge of the New England district for the Weyerhaeuser Pulp Division and is located in Clinton, Mass.

William A. Geiger and W. M. McNair have been made district representative of the Weyerhaeuser Pulp Division with headquarters at 400 West Madison Street, Chicago, Ill.

EARL THOMPSON IN CALIFORNIA

Earl Thompson, Northwest representative of the Great Western Electrochemical Co., spent part of July and August in the San Francisco office and at the Pittsburg plant. On Aug. 1 he made a flying trip to Los Angeles, where he spent some time with Frank Wheelock, chief chemist at the Vernon plant of Fibreboard Products, Inc.

PLAN EARLY CONSTRUCTION OF MUTUAL MILL

Promoters of Mutual Pulp and Paper Mills of Prince Rupert believe they have overcome their most formidable obstacles in establishing a bleached sulphite pulp mill at the northern British Columbia town.

Frank L. Buckley, who has been pioneering the project for some years, told Pacific Pulp and Paper Industry that he believed the long pending deal was at last near fruition and that construction of a 250-ton mill would be commenced in the early future.

"Certain engineering details remain to be ironed out," said Mr. Buckley, "but I do not anticipate any serious delays in getting construction under way."

Mr. Buckley says that he is now awaiting a report from L. A. DeGuere of Wisconsin Rapids, Wis., who has been engaged as engineer for the project and who paid a visit to Prince Rupert the latter part of July. Mr. DeGuere's report will outline his views regarding site and power.

"I hope that we will actually get construction under way some time this fall," said Mr. Buckley. "There is no longer any doubt that we are ready to go ahead."

San Francisco and Wisconsin capital is behind the latest of British Columbia's pulp enterprises. Mr. Buckley recently returned from a trip east where he conferred with his principals and discussed markets and construction details with pulp distributors and engineers.

It is expected that building of the mill

will occupy about eighteen months, and about 2,000 men will be given employment, including those in the woods camps. The mill itself will be of steel and concrete. As to details of equipment, officials of the company are not yet in a position to make any announcement, but hope to have definite data on this point in a few weeks.

Engineers are now on the ground making investigation of power possibilities and site. It has not been decided yet whether to place the mill on the drydock site in Prince Rupert or at Seal Cove. Either location would give the mill close access to the city's labor market—a condition not present at other pulp and paper towns in British Columbia which have developed under company control.

It is believed that the mill will have an abundance of water at Shawatians Lake. Power will be provided at first by Northern British Columbia Power Company and this will be augmented by what the company may produce itself.

The company controls 4,500,000,000 feet of titled timber on the Queen Charlotte Islands and in the Skeena River valley. Logging operations will be commenced well in advance of completion of construction.

Those behind the Prince Rupert project say that it will cater almost exclusively to the domestic trade—Eastern Canada and the United States, either by rail or water. The company claims to have virtually its entire production under contract.

THE VANCOUVER KRAFT SITUATION

Bondholders of Vancouver Kraft Company, Ltd., will hold another meeting in Portland on September 11 in the hope of straightening out the somewhat tangled affairs of the corporation so that when conditions warrant an opening of the mill at Port Mellon, B. C., the legal obstacles will have been set aside.

The September 11 session is one of a series of meetings that trustees and bondholders have been having during the past few months. All previous efforts at reaching an understanding have been abortive, but the air seems to be gradually clearing.

Vancouver Kraft, controlled by the F. W. Leadbetter interests, commenced construction of a kraft and lumber mill at Port Mellon, Howe Sound, in 1928, and about \$1,500,000 has already been spent on the project. Depression in all pulp and paper markets resulted in suspension of operations, however, and the mill has never been on a producing basis.

The company defaulted on its bond interest and sinking funds requirements on May 15, 1931, but a four-year extension was granted, and certain concessions made regarding sinking funds.

To place the mill on an operating schedule it is estimated that a further expenditure of \$400,000 will be required, although it is believed that \$300,000 would probably be sufficient to cover

immediate expenses — \$100,000 to look after prior charges such as taxes and insurance; \$100,000 for completion of the plant, and \$100,000 for working capital.

Vancouver Kraft affairs were allowed to lapse for several months but in the spring of 1934 the trustee, National Trust Company of Canada, endeavored to get some action and suggested to bondholders that they apply for receivership. Application was made according to legal procedure in Canada under the Mortgagees and Purchasers Relief Act of British Columbia for leave to bring about enforcement proceedings and the sale of the mortgaged properties. The supreme court decided to put the issue before the bondholders at a meeting on June 12. Learning of this step, Mr. Leadbetter called an extraordinary meeting of bondholders for the afternoon of the same day to take steps necessary to placing the company's properties "in profitable operation."

Mr. Leadbetter expressed surprise at the action of the trustee and in a letter to bondholders stated that the only prospective buyer of the mortgaged properties was a Japanese concern which would probably dismantle the plant and use the equipment in the Orient. Mr. Leadbetter said that Columbia River Paper Company would advance sufficient

money to protect the Vancouver Kraft property for a year, and that he felt confident of being able to raise a loan sufficient to place the Port Mellon mill in operation.

"Recently the price of pulp has increased to a point that should yield substantial profit," stated Mr. Leadbetter. "And of late the better sawmills in British Columbia are reported to have operated quite profitably, largely by reason of export to other British countries and correspondingly advantageous duty differentials; consequently, our sawmill, considered the best there, should be able to operate even more profitably."

The necessary vote to give effect to these proposals was lacking at the meetings in July, and the future course of events will rest with the September meeting. Those close to the negotiations say there is a reasonably good chance that the mill will be in operation by next summer.

JAPANESE TARIFF EFFECTIVE JULY 20th

The tariff on Canadian products entering Japan amounting to 50 per cent ad valorem became effective July 20th.

The Japanese consul at Portland, Oregon, recently stated that in 1934 Japan bought goods from Canada worth 54,093,620 yen and sold to Canada goods worth but 8,666,087 yen. The balance of trade in favor of Canada he claimed was due to prohibitive Canadian tariffs. Canada in levying duties has refused to use the devalued yen of 29 cents as a basis, using instead the yen's former gold value of 50 cents.

During 1934 Japan purchased from the United States goods worth 769,359,099 yen and sold us goods valued at 398,928,139 yen.

The following table shows the comparative value in yen of Japan's chief imports from both the United States and Canada:

Commodity:	Canada	United States
Wheat	8,119,710	9,869,363
Pulp	7,244,947	16,321,947
Paper	135,707	4,595,089
Lumber	9,469,258	20,966,682

British Columbia's shipments of pulp to Japan have been entirely suspended as a result of the imposition of Tokio's 50 per cent surtax on certain Canadian imports in an effort to offset Canada's favorable balance of trade.

Officials of B. C. Pulp & Paper Company and Pacific Mills, Ltd., the two organizations chiefly affected, kept the wires burning between Vancouver and Ottawa during the negotiations preliminary to the tax becoming effective, but all efforts proved futile. The only hope now is that the measure may be only temporary. British Columbia pulp operators have been advised from Tokio that Japanese paper manufacturers were not in favor of a trade war with Canada and regarded the Tokio government's action as "petty".

The Japanese impost is a straight 50 per cent ad valorem tax which affects mechanical pulp for paper making, wrapping and match paper, felts for paper-making and lumber.

On mechanical pulp the tax amounts to 6½ cents per 100 pounds. On wrapping and match paper it is 70 cents per hundred pounds and on felts \$23.20 per 100 pounds. On lumber the tax ranges from \$2.30 to \$9.10 per thousand feet.

In retaliation against Japan's action the Canadian government slapped on a 33½ per cent tax on all Japanese goods.

OFFICIAL WAGE SCHEDULES COMPLETED

Classification Committee Finishes 200 Page
Report Covering 2800 Job Rates

The official wage schedules of all mills cooperating through the Pacific Coast Association of Pulp and Paper Manufacturers have just been completed and distributed to the members.

The official schedules are contained in a report of the Permanent Classification Committee of the Association, together with a record of the adjustments which were made effective on June 1 of this year and a copy of the Uniform Labor Agreement to which the several mills were parties. The signing of this agreement was reported in the June number of "Pacific Pulp and Paper Industry."

The new report covering the wage adjustments and wage rates consists of approximately 200 pages. It contains the official wage schedules of 24 mills or plants, compared with 18 which appeared in the 1934 report.

The rate schedules alone constitute 249 pages of the report, and contain over 2800 job rates. Over two-thirds of the total number of jobs, representing a considerably larger proportion of the total employees, have standard rates which have been officially adopted for the entire coast.

Standard Rate Section

A feature of the report is a section detailing the standard rates which have been adopted. This schedule contains over 150 classified occupation rates, and in addition a record of the minimum and maximum rates being paid on 67 other classified jobs, for which standard rates have not yet been adopted.

The rate structure has been built on a common labor base rate of 47½¢ for men and ranges up to a rate of \$1.53½ for the highest paid machine tenders.

Report Continues 1934 Work

The present report is a continuation of that which was developed by a joint committee of the manufacturers and the

paper mill unions in 1934. At that time the Uniform Labor Agreement provided that such a committee work out jointly certain supplemental increases over and above the base rate increase then applied. The Joint Committee approved a total of 232 job rate increases. Of this number, 171 were in accordance with the formula under which the committee was working, and 61 were voluntary adjustments applied by the manufacturers.

Increases Made By Manufacturer's Committee

The wage adjustment procedure in 1935 differed from that of last year in that the supplemental adjustments, over and above the base increase, were made the responsibility of a committee of the manufacturers, on which the labor unions were not represented.

It is interesting to note the supplemental job rate increases made by the manufacturers' committee in 1935 applied to 212 job rates, or almost the same number as those approved by the Joint Committee including union representatives in 1934.

Voluntary Increases Total \$30,000

The voluntary supplemental increases made by the manufacturers as of June 1, 1935, affect over 600 employees and involve additional annual earnings of over \$30,000.

Coast Wages Highest

The rate schedules of the Pacific Coast mills represent the highest base rate and the highest average hourly rate, and result in the highest average weekly earnings, in this industry anywhere in the world. The average hourly rates are approximately 18 per cent higher than the average for the industry in the U. S., and the average weekly earnings are over 20 per cent higher than the average for the entire industry.

FIBREBOARD EMPLOYEES BANQUET

One hundred employees of the Fibreboard Products, Incorporated plant at Port Angeles, Washington, attended a banquet July 3rd, marking the completion of the pulp and paper manufacturing school held at the mill.

After Robert Bundy, assistant mill manager, had presented the members of the organization with cards showing they had satisfactorily completed the course of study, manager J. B. Martin, Jr., presented service pins to twenty-eight men. The following received fifteen year service pins:

Herbert Shellshear, Harry Wilson, John Flaherty and Walt Taylor.

Those receiving ten year pins were: Waldo S. Loucks, Albert E. Feron, Robert Jones, George Boyd, George Rogers, Frank Foy and William Blakey.

Five year pin winners were: Milton Porter, Ted Eichenberger, George Hopkins, Al Brown, Frank Lemon, Ed Hendricksen, Joe Avery, Louis Gebhardt, George Waugh, Nick Larkin, Frank Kelly, L. C. Lamberson, John Lewis, Ralph Lackman, Charles Meagher, George Ulin and R. Murray.

Manager Martin also presented the cash awards for suggestions made for plant betterment during the year.

To William Hodgson was awarded the capital prize of \$50 for his suggestion of stainless steel digester fittings. Frank Simonds won first prize for his suggestion on chipper knives. Other prizes awarded were to Vic Schell for circuit breaker, J. Remick for boiler doors, L. Rogers for news racks and to Milton Porter for tie rods for the wood racks.

C. D. Altick, an eighteen year man, spoke on pulp pioneering in Port Angeles and the changes that have come since the Crescent mill was first built in the city.

During the preceding year employees made 492 suggestions for the elimination of waste and the improving operations of the Fibreboard mill. Of these 296 were accepted and put into operation.

RAY SCHADT VACATIONS

Ray Schadt of the Crown-Willamette Technical Department at Camas vacationed the last two weeks of July at the Oregon beaches.

HEAD OF OJI PAPER COMPANY ON COAST

The biggest figure in the paper industry of Japan, Ginjaburo Fujiwara, head of the huge Oji Paper Mills, is a visitor to the Pacific Northwest. He arrived in Vancouver on the C. P. R. liner Empress of Japan on July 30 and planned to remain on the west coast with his party for several weeks, visiting mills and conferring with pulp and paper executives.

Oji Paper Mills is one of the biggest industrial organizations of its kind in the world. It controls thirty-six mills, many of them ranking in size and productive capacity with mills in this country. Oji operates vast lumbering, wood-pulp and paper plants in Hokkaido, Karafuto (Japanese Saghalin) and recently has embarked on extensive developments in Manchoukuo.

On the subject of the trade war between Japan and Canada, brought about as a result of Tokio's arbitrary 50 per cent surtax on Canadian pulp, lumber and other products, and Canada's retaliation with a similar tax, Mr. Fujiwara was smilingly silent. He is not one to discuss the government policies of his country. He leaves that to the politicians, but he did express the hope that the present difficulties would not last long.

"After all, Japan and Canada need the products of each other and it is only reasonable that trade between the two countries should grow rather than be retarded by artificial barriers," said Mr. Fujiwara. "Japan will need paper from Canada for many years to come, and I am glad that no restrictions have been placed on its importation."

Although in a sense a competitor of American and Canadian paper mills, the Oji executive recognizes the inability of Japan's own mills to meet the fast growing consumption of paper.

Mr. Fujiwara denied that his visit had any significance in relation to the surtax and related developments, "Japan is not the pleasantest country at this time of the year," remarked one of his party. "The temptation to come to America at this season, especially to discover new things about one's own business, is very great."

Mr. Fujiwara will not go east of the Rockies on his present tour, but will confine most of his time to visiting pulp and paper mills in the Pacific Northwest. He particularly wants to investigate the forest situation in Alaska at first hand.

One of the members of Mr. Fujiwara's retinue is M. Fukukita, counsellor to the Oji company, and right hand man to the big boss. In his spare time Mr. Fukukita writes poetry and books on Japanese folk lore.

CAL FRUIT WRAP PRESS INSTALLED

The California Fruit Wrapping Mills recently installed a Beloit suction press on its number one paper machine. The press was built by the Beloit Iron Works of Beloit, Wisconsin.

HAMMOND JOINS WEYERHAEUSER

Richard Hammond of Longview went to work in the Research Department of the Weyerhaeuser Timber Company Pulp Division upon his graduation from the University of Washington College of Forestry in June. He formerly worked in the laboratory during vacations.



M. L. MAMMEN
Crown-Zellerbach Safety Supervisor

CROWN-ZELLERBACH APPOINTS SAFETY SUPERVISOR

An extension of their safety and accident prevention work has recently been made by a large group of Pacific Coast companies in the pulp and paper industry. The mills in the Crown-Zellerbach Corporation group, in cooperation with Grays Harbor Pulp & Paper Company, Olympic Forest Products Company and Rainier Pulp & Paper Company, have engaged the services of Mr. M. L. Mammen as general safety supervisor, and are undertaking a systematic and intensified program for accident prevention.

Several of the mills concerned have had good records of low accident frequency, with a correspondingly low record of lost time. Excellent safety programs have been developed within certain of the mills, and the present plan is to make such programs substantially uniform in all the plants which are co-operating.

The officials of the companies recognize that there has been an increase in the number of employees exposed to accident hazards, as a result of the shortening of the work week in the last two or three years, with a corresponding increase in the number of individuals employed.

Several of the mills are already splendidly equipped with first aid rooms. Where the size of the operation justifies it, a resident nurse is on duty in the plant during the most important hours of each day. This single feature, according to the past records of the company, has proven itself a valuable factor in reducing the number of lost time accidents by providing the workers with prompt attention in cases of minor injuries.

The accident experience in the pulp and paper industry is similar to that in general industrial employments, in that a large majority of the lost time accidents are traceable to causes which can be avoided if known. Therefore, the program which these companies are following places the utmost emphasis on constant cooperation of the workers and supervisors in the effort to avoid unsafe practices. At the same time vigorous attention is given to the inspection and safe-guarding of physical equipment and conditions.

The program is built on the cooperation of the employees themselves. The organization of safety committees, inspections, reports and correction of unsafe conditions, in each plant, is carefully worked out in meetings with the supervisors and selected groups of employees. The general safety superintendent reports enthusiastic cooperation on the part of the employees throughout the operations.

Mr. Mammen, who is directly in charge of the program under the operating executives of the various companies, brings to the work a broad and valuable experience. He spent several years with the California Industrial Accident Commission, in all phases of their accident prevention and industrial compensation work. He has also served for some years as general safety supervisor for one of the largest lumber and logging operators on the Coast, where his work showed constructive results. In addition he has had some years of experience in safety supervision and engineering work for widely diversified industrial plants on the Coast.

The expanded program which these companies are undertaking is receiving the enthusiastic approval and cooperation of the Washington Department of Labor and Industries and the Oregon State Industrial Accident Commission.

COOS BAY PULP MILL STARTS

With the blowing of the first digester the morning of August 12th, the Coos Bay Pulp Corporation began operations in the completely revamped mill of the old Sitka Spruce Pulp & Paper Company at Empire, Oregon.

Mr. K. O. Fosse, president of the company, states that the mill is now in a position to manufacture high quality unbleached spruce sulphite pulp for both domestic and export markets. The first shipments will go to Japan, heavy orders having already been received.

The sawmill has been leased to the Coos Bay Logging Company. It will be operated one eight-hour shift solely for the pulp mill's requirements, furnishing both pulpwood and hogged fuel.

Edward S. Morton, formerly of the Rainier Pulp & Paper Company at Shelton, has been named manager and assistant to the president. Sigurd Norman is the superintendent in charge of operations. He has had many years experience in producing quality sulphite pulps.

W. Smith, accountant, came from the Puget Sound Pulp & Timber Company in Anacortes. Carl Johansen is maintenance foreman. He has been associated with Mr. Fosse for a number of years.

Julian Dufraigne, electrician, was formerly with the Longview Fibre Company.

O. P. Peniston, chemist, came from the Rainier Pulp & Paper Company at Shelton, as did Charles Walton, pipe-fitter. Roy Fox, steam engineer, came to Empire from Hoquiam.

J. J. Borchert, woodroom foreman, has been doing similar work in Everett. W. H. Gillispie, in charge of the log inventory came from International Falls, Minnesota, but for sometime has been living in Seattle.

GEORGE WOLF A BENEDICT

George Wolf, master mechanic for the Pulp division, Weyerhaeuser Timber Company, Longview, was married in May to Miss Dorothy Rulifson of Longview.

INTEREST SHOWN IN GRAYS HARBOR

Financial interests, both on the Coast and in the East, are exhibiting interest in the many advantages possessed by Grays Harbor as a location for one or more additional pulp mills.

The availability of adequate supplies of suitable pulpwood, a low cost supply of pure water together with sites for mill construction which are considered by many to be ideal, are factors arousing this interest among financial men.

LES BERGERON MARRIES

The news is a bit late, but Les Bergeron, secretary to W. S. Lucey, manager of the Grays Harbor Pulp & Paper Company at Hoquiam, was married June 15th to Miss Doris Reeve of Tacoma.

WANTED—INFORMATION

A number of years ago a paper mill operated on Lake Washington just outside of Seattle. It was built by a Mr. Steele. It burned down and the salvaged machinery was shipped to Sumner, Washington.

Can anyone furnish this journal with Mr. Steele's initials, the date when the mill was built, when it burned, and who the men were that were interested in the mill besides Mr. Steele. Any other information about the Lake Washington mill will also be of assistance to a reader of Pacific Pulp & Paper Industry who desires this information.

So if anyone knows the history of the Steele mill on Lake Washington it will be appreciated if they will write this journal.



W. A. GEIGER MARRIES SUSAN NASH

William A. Geiger, district representative in Chicago for the Pulp Division, Weyerhaeuser Timber Company, was married June 22nd to Miss Susan Nash of Wisconsin Rapids, Wisconsin.

The wedding took place at the bride's home in Wisconsin Rapids. George Nickum of Seattle went East to serve as best man. Among the guests attending were William McNair, also a district representative of the Pulp Division, Weyerhaeuser Timber Company, and Mr. L. K. Larson, who has recently become associated with the Pulp Division, in charge of the New York office.

Mr. Geiger is well known on the Coast.

STEAM IN THE PULP and PAPER MILL*

By WILLIAM R. GIBSON

Resident Engineer, Rainier Pulp & Paper Co., Shelton, Washington

WHILE considering this paper, I recalled a book read many years ago, the title, "Put Yourself in His Place" — the author, Charles Reade. — the subject, governing one's actions by what the other party in business or other affairs might be expected to do or to want.

Putting myself in your place, what then should I assume that you would want to hear in such a paper?, presumably suggestions to cut the cost or economize on the quantity of steam necessary for the production of saleable pulp or paper.

Undoubtedly many of you have already given much thought to this subject, but several years of contacting a group of pulp and paper mills have taught me that there is always room for further economy no matter how much has been done. First, as to the cost of steam and that cost is always "too high".

Good Combustion Essential

If we remember that the secret of good combustion is largely in burning our fuel, whatever it may be, with enough air to burn that fuel completely, but with the least possible excess, we have an answer to the problem of lower cost; and it is: "Cut down on air leakage at any point where it is not required for the actual burning of the fuel."

Every additional pound of air that passes through a boiler setting under ordinary conditions will carry away to waste from 100 to 150 B.T.U.

Stop cracks in brick setting, stop leaks round boiler drums, cut down on the amount of air going in through feed holes if you burn hog fuel. Cut down opening of boiler damper to the minimum which will carry the boiler load.

Use preheated air wherever possible as by this means you not only recover heat but you make it possible to get complete combustion with less excess air. An increase in temperature of air under grates of about 40° to 50° F. means an increase of 1% in evaporation with hog fuel. You may say, we must have instruments to do all this. Not necessarily. Instruments are a big help but much can be done without them. A great deal can be done with only a draft gauge, and if you can't afford one your chemists can bend a piece of glass tube and fill it with red ink (and you have always some red ink round a pulp or paper mill.)

With the draft gauge the engineer or fireman can determine the best operating condition for his boiler and is then able to see at a glance that that condition is being maintained.

Still more can be done with a CO₂ Recorder, although this is a more expensive piece of equipment to buy and maintain.

*Presented at the joint meeting of the Pacific Coast Section of TAPPI and the Pacific Coast Division of the American Pulp & Paper Superintendents' Association, Portland, Oregon, May 11th, 1935.



A recording thermometer for flue gases provides valuable information and the list of boiler instruments is completed if you provide a flow meter to measure the output of steam. But to an intelligent operator (and you can't afford any other kind) the draft gauge is the most essential as it is the cheapest of all the instruments.

One other point: Make it reasonably easy for the fireman to adjust his dampers and you can then depend on them being adjusted as and when necessary.

Having put boiler setting and controls in shape what is the next step?

Waste Through Leaks

In most cases, the stoppage or recovery of leaking or wasting steam and hot water. Since in pulp mills as a rule some 50% of total steam output goes to waste and can not be recovered, there is usually room in the boiler plant for all the clean hot water than can be recovered. Yet how often we see steam or hot water blowing and leaking away in a dozen different places.

Actually I can only think of two places where the steam should be seen going to the atmosphere. One is the leakage from steam seals on a turbine and the other is the exhaust from a steam driven fire pump.

Remember that of the 1200 or 1300 B.T.U. in every pound of steam that leaves your boilers about 1100 remain in every pound of steam you blow to atmosphere and from 100 to 150 B.T.U. in every pound of hot water and in addition every pound of condensate you save cuts down on the cost of feed water treatment.

Perhaps your boilers have some scale on tubes or drums which prevents heat being absorbed by the water in the boiler.

You don't need to have any scale today. There are boilers operating in the

Northwest at high pressures and high ratings, using 50% raw water make-up and absolutely no scale and no corrosion. Now with all these matters attended to we come to the question of economy in use.

Economy in Use

Beginning with the acid plant. About the only recommendation we can make here is to see that your sulphur melting coils are fitted with good steam traps and that the discharge from the traps is visible.

There seems to be a fixed opinion among many operators that they can get the coils hotter by opening the bye-pass on the trap and blowing steam through. In fact, of course, they actually lower the temperature of the coil by lowering the pressure and the same thing is true of a great many heating devices seen around many mills.

Incidentally, the bye-pass on a steam trap should always have a good grade of globe valve on it, never a gate valve, as the only purpose is to provide a regulated discharge while trap is under repair and you cannot regulate with a gate valve.

Steam and Digesters

Since digesters usually account for a great part of total steam consumption much attention has been given to this part of the problem in recent years and we have recovery systems, circulating systems and other methods outside the scope of this paper, though most of them have the saving of steam as one of their principal recommendations.

Other possible savings lie in the use of a mild degree of superheat in the digester steam which helps in holding up acid strength.

The next part of the mill where steam is used is the bleach plant, but savings here will depend on some improvement in process.

Steam for Drying

We next come to the drying machine and the wide discrepancy shown in published figures of steam usage shows that there is room for investigation here.

Since the pulp reaches the dryers about 40% bone dry there is about 1.35 tons of water to be evaporated from every ton of pulp stock and since every pound of water evaporated will require from 1110 to 1120 B.T.U. it follows that the minimum requirement of steam per ton of pulp is about 3,000 lbs., but this represents 100% efficiency which in practice is not attainable.

Actual steam consumption may vary from 4500 to 6000 lbs. per ton.

Leaving aside the vacuum dryer which is a special case, let us consider what our problem is.

We have to evaporate from the sheet a large quantity of water in the form of water vapor and provide enough air to absorb this moisture and carry it away from the sheet without allowing condensate to form.

It is rather remarkable that until a short time ago comparatively low temperature air was used for the purpose of absorbing this water vapor and it was quite common to direct some of this air not to the sheet where it would help in drying but to the upper part of a hood or monitor to prevent condensation.

Let us see what happens when we heat and evaporate 100 lbs. of water from 60° F. to 120° F. and from 60° F. to 180° F.

Each pound of air @ 120° F will absorb 0.08042 lbs. water vapor.

To absorb 100 lbs. water with air @ 120° F we require:

$$\begin{aligned} 100 & \div 0.08042 = 1,240 \text{ lbs.} \\ \text{and } 1,240 \text{ lbs. air-heated from } 60^\circ \text{ F to } 120^\circ \text{ F requires:} \\ 1,250 \times 60 & \div 24 = 17,856 \text{ B.T.U.} \end{aligned}$$

Total heat of water vapor @ 120° F—1112.3.

Therefore heat to be supplied to evaporate 100 lbs. of water @ 120° F, with initial temperature of 60° F

$$\begin{aligned} &= 100 \times 1112.3 - (60 \cdot 32) \\ &= 100 \times 1084.3 = 108,430 \\ &\text{/ heat in air} = 17,856 \end{aligned}$$

Total B.T.U. 126,286

Each pound of air @ 180° F will absorb 0.64942 lbs. water vapor.

To absorb 100 lbs. water vapor with air @ 180° F we require:

$$\begin{aligned} 100 & \div 0.64942 = 154 \text{ lbs.} \\ \text{and } 154 \text{ lbs. air-heated from } 60^\circ \text{ F to } 180^\circ \text{ F required:} \\ 154 \times 120 & \div 24 = 4,435 \text{ B.T.U.} \end{aligned}$$

Total heat of water vapor @ 180° F—1137.8.

Therefore heat to be supplied to evaporate 100 lbs. water at 180° with initial temperature 60° F::

$$\begin{aligned} &= 100 \times 1137.8 - (60 \cdot 32) \\ &= 100 \times 1109.8 = 110,980 \\ &\text{/ heat in air} = 4,435 \end{aligned}$$

Total B.T.U. 115,415

To evaporate and absorb 100 lbs. of water at 60° F. into dry air at 120° F. will require 126,286 B.T.U.

To evaporate and absorb 100 lbs. of water @ 60° F. into dry air @ 180° F. will require 115,415 B.T.U., or about 9% less heat required at higher temperature.

The above formula ignores the effect of existing atmospheric moisture and also of radiation. The first would favor the higher temperature, the second would favor the lower but the fact is that it is more economical to evaporate at the higher temperature if excessive use of air is avoided. It might be worth while at this point to state the points to be regarded in machine drying of either pulp or paper, leaving out the question of how steam should be laid on to dryer rolls which is apparently debatable. We will consider these points which are of known value.

For Efficiency Drying

1. Enclose machine by a tight hood fitting as closely as possible and coming down as near to floor as possible. It is also an advantage to have hood insulated to prevent condensation, and to

put baffles or divert air stream a short distance above dryers to prevent condensation falling on sheet.

2. Supply air heated to highest reasonable temperature remembering that in all ordinary cases dryer rolls are under a temperature of 220° to 270° F. and that increasing air temperature up to 200° or 210° will allow pressure on dryers to be lowered for same drying rate and will, therefore, give a lower maximum temperature on sheet.

3. Direct this heated air by means of jets to remove layer of vapor given off by sheet particularly in pockets between dryers. There is reason to believe that this latter operation is performed more efficiently by small high pressure and high temperature jets than by larger quantities at lower velocities.

Recovering Heat From Vapors

There is also the possibility of recovering a considerable quantity of heat from the vapors leaving the machine dryer but on the Pacific Coast the low cost of fuel makes it difficult to show an attractive return on the investment. Since in the ordinary case the actual cost of fuel and not the cost of steam is the only saving that can be shown and the recovery equipment is of necessity costly as it has to combine a considerable surface area with non-corrosive properties.

Savings from High Pressure Steam

We might refer briefly to the savings possible with high pressure steam plants when used in conjunction with bleeder or back pressure type turbines to produce power. The cost of power thus produced in favorable circumstances will stand comparison with hydro-electric power, but such installations requires a very careful analysis of all the governing factors in every case if the full benefit is to be gained and generalizations are not of much value. There is, however, one application of this principle which is quite often possible.

That is, the use of small turbine-driven units instead of or as an alternative to, motor-driven where the exhaust steam can be utilized and where water is being fed to a boiler at temperatures under 220° F. The possibility of using a steam-driven unit at some convenient point so that the exhaust may be used to bring up feed water temperature is well worth having in mind.

FOREN NEW COLUMBIA RIVER SUPERINTENDENT

Phil Foren, formerly boss machine tender at Camas, has assumed his new duties as paper mill superintendent of the Columbia River Paper Mills at Vancouver, Washington.

He succeeds Fred Newman who resigned because of ill-health. Mr. Newman left for the East the middle of June.

OLYMPIC REFUNDS BONDS

The Olympic Forest Products Company of Port Angeles, Washington, announced July 22nd an issue of one million dollars in serial debentures bearing an average interest rate of 3 per cent to refund the first mortgage 6½ per cent bonds due September, 1936.

The new debentures, which run from July 1st, 1936, to July 1st, 1940, are grouped in five series of \$200,000 each, with coupons ranging from 1½ per cent to 5 per cent, according to the maturities. They were offered at 100 and accrued interest from July 1st, 1935.

The new issue takes advantage of the present cheap money market and will result in reducing interest charges and in savings on the funded debt.

According to the annual earnings statement dated April 30th, 1935, the net earnings available for payment of interest on the debentures was more than twelve times the requirements. The Olympic Forest Products Company continued to improve its earnings during the 1934-1935 fiscal year.

CROWN ZELLERBACH NET EARNINGS DROP \$225,727

Operations of Crown Zellerbach Corporation and subsidiaries, other than Crown Willamette Paper Company and its subsidiaries, for the year ended April 30, 1935, after giving effect to all charges for depreciation, depletion, bond interest and income taxes, resulted in a consolidated net profit of \$1,407,513, equivalent to \$5.62 a share on Crown Zellerbach Corporation preference stocks outstanding in the hands of the public. This compares with a consolidated net profit of \$1,633,240, or \$6.51 a share for the preceding fiscal year.

Dividends of \$2.25 a share, totaling \$563,694, were paid during the year on Crown Zellerbach Corporation preference stocks, representing quarterly dividends of 37½ cents a share during the first two quarters and 75 cents a share during the third and fourth quarters. This compares with dividends of \$1.50 a share, or \$375,752 paid the preceding year. Accumulated unpaid dividends at April 30, on the preference stocks, were \$17.50 a share.

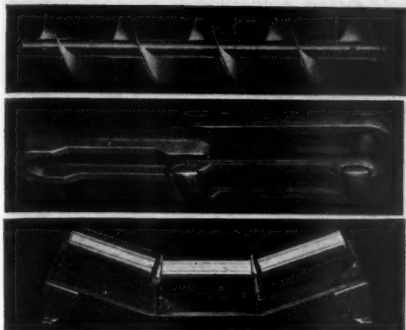
Consolidated current assets at April 30 aggregated \$8,894,050, approximately 3.3 times current liabilities of \$2,690,118. Working capital amounted to \$6,203,931, compared with \$6,127,975 at April 30, 1934. There were no current bank loans. Long-term indebtedness was reduced by \$1,078,749 during the year. Debentures aggregating \$1,510,000, purchased in advance of requirements, were in the corporation's treasury at April 30, 1935.

SWEDISH TRADE AGREEMENT APPROVED

On July 5th President Roosevelt proclaimed the Reciprocal Trade Agreement with Sweden. This action puts the agreement into effect August 5th for a period of three years, unless abrogated upon six months' notice by either country.

WANTED

Sulphate pulp mill superintendent for 60-ton mill in New Zealand. Please state age, experience, nationality and give references and salary wanted. Address reply Box 21, care Pacific Pulp & Paper Industry, 71 Columbia St., Seattle, Washington.



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THE ELECTROLYTIC PROCESS OF OBTAINING CHLORINE, CAUSTIC SODA AND HYDROGEN FROM SALT

As Illustrated by the Animated Exhibit Presented to the Franklin Institute
By the Pennsylvania Salt Manufacturing Company

In the Franklin Institute and Benjamin Franklin Memorial in Philadelphia are a number of animated exhibits depicting the commercial processes of manufacturing chemicals. Among these one of the most interesting to those connected with the pulp and paper industry is the exhibit showing in detail the manufacture of chlorine, caustic soda and hydrogen from common salt. This model was built by the Pennsylvania Salt Manufacturing Company and given to the Franklin Institute where it may be seen in operation.

The animated model plant, which is pictured on this page, is over eight feet long and four feet high. On either end are cases which contain samples of salt, the immediate products of the process, chlorine, caustic soda and hydrogen, and the other products into which the Pennsylvania Salt Manufacturing Company converts them: bleaching powder, sodium hypochlorite, perchloron, ferric chloride (solid and solution), hydrochloric acid, carbon tetrachloride, lye, sodium aluminate, anhydrous ammonia, ammonium chloride and ammonium persulphate.

Upon pressing a button the exhibit mechanism starts and a phonograph describes the steps and give the reasons for the operation in synchronism with the operation itself. The process described is identical with the process in the Tacoma, Washington plant of the Pennsylvania Salt Manufacturing Company.

The Electrolytic Process

At some of the large plants in the East, salt wells on the property furnish the raw material necessary for the electrochemical process, whereas the salt for the Tacoma plant has its origin in California. The San Francisco Bay district is the most northerly point on the Pacific Coast where solar evaporation exceeds the rainfall, thereby making it possible to commercially obtain salt from sea water. This crude salt is brought to Tacoma in bulk via water and discharged into a large pit. Water is added and a saturated brine solution results.

Although this brine is practically free from impurities, it contains a small amount of salts of calcium and magnesium. These are removed by the proper addition of chemicals which precipitate the calcium as calcium carbonate and

magnesium as magnesium hydroxide. The impurities are removed by passing the solution through a filter, thus producing a pure brine for electrolysis. The purified brine is pumped to the electrolytic cell where it is decomposed into chlorine, caustic soda and hydrogen.

THE CELL

In electrolytic processes, a chemical compound is placed in a cell and subjected to the action of electricity in order that it may be decomposed into its simple constituents. To accomplish this, two electrodes are placed in the salt solution and an electric current is caused to flow between them. The chlorine is attracted and discharged in the form of a gas at the positive electrode, or anode. The sodium is discharged at the negative electrode or cathode, where it immediately reacts with the water present, forming caustic soda and setting hydrogen free.

In order that the two main products, chlorine and caustic soda, may not reunite, the cell is divided into two chambers by a porous membrane, called a diaphragm. The solution flows through the diaphragm very slowly, and in the case of cells like the Gibbs cell in which



The animated exhibit donated to the Franklin Institute of Philadelphia. Note the replica of a salt well at the left.

the caustic soda solution runs continuously from the cathode chamber, this flow prevents the recombination of the chlorine and caustic soda.

The chlorine which is discharged on the surface of the anode appears as small bubbles which grow in size until they break away from the electrode and rise to the surface of the brine in the anode chamber.

Drying the Chlorine

The chlorine gas, as it rises through the brine in the cell, becomes saturated with water vapor. Wet chlorine is very corrosive and rapidly attacks most metals, so that it is necessary to remove all traces of water before the gas can be changed into the more convenient liquid form. This water is quite easily removed when the chlorine, issuing from the cell, is brought into contact with very strong sulphuric acid. This acid has a powerful attraction for water, and the chlorine becomes thoroughly dried.

Compressing It

The next step leading to the production of liquid chlorine is the compression of the dried gas. This operation is carried on with some difficulty on a large scale and requires the use of powerful machines of special design. After it has been compressed, it is passed through long pipes which are cooled to a low temperature by means of cold brine or liquid carbon dioxide. Under these conditions of pressure and refrigeration, the pure, dry chlorine gas becomes a liquid just as steam condenses to water when it comes in contact with a cold surface.

This liquid is stored under pressure in steel tanks or cylinders, and is sold in quantities ranging from a few pounds in cylinders to thirty tons in special tank cars.

Hydrogen

Returning to the electrolytic cell, it will be remembered that gaseous hydrogen is set free on the surface of the cathode. This hydrogen is of commercial value but the plant at Tacoma does not make use of it, principally because of the absence of a satisfactory market. It can be collected and used in several chemical processes, one of which is the production of hydrochloric acid by bringing about a chemical reaction between its elemental constituents—chlorine and hydrogen.

The hydrogen is forced through pipes by means of blowers, and is introduced, together with just the right amount of chlorine, into a burner. Under these conditions, chlorine unites chemically with hydrogen to form hydrochloric acid. The union of the gases produces much heat and the flame burns with a greenish color.

The hydrochloric acid gas leaving the burner must be cooled before it is absorbed in water. To do this it is passed through a considerable length of pipe so arranged that the heat is removed by the surrounding air. The cooled gas is then passed through a series of pipe-like absorbers through which pure water is run. The gas first comes into contact with the strongest solution, then passes upward meeting a weaker and weaker solution until finally only water is encountered. The tail gas from the absorbers is drawn through a tower packed with quartz and sprayed with water, which removes the last traces of hydrochloric acid and prevents this corrosive gas from escaping into the air. Since only chlorine, hydrogen and water, the pure constituents are used, a very high grade of hydrochloric acid results. It is sold in quantities rang-

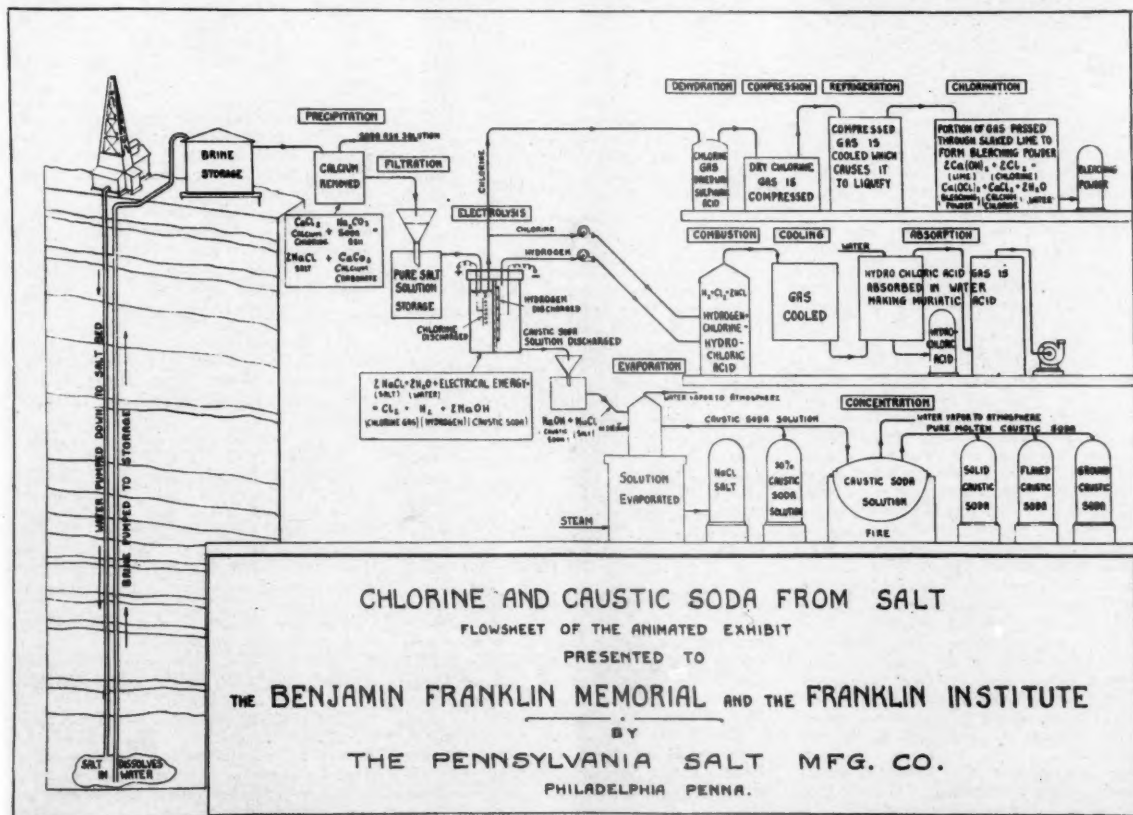
ing from a few ounces to railroad tank cars, and may be had in almost any strength up to 35 per cent.

CAUSTIC SODA

Upon returning to the electrolytic cell for the last time, it will be recalled that the sodium which was discharged at the cathode, resulted in the formation of caustic soda and the hydrogen just described. The diaphragm permits the passage of enough water, not only to form hydrogen and caustic soda, but also to dissolve the caustic soda and wash it away as a relatively weak solution. Not all of the salt which passes through the diaphragm as a solution is decomposed by the electric current. Some is unchanged and constitutes an impurity in the caustic soda.

The weak, impure caustic soda solution is collected and run into large, steam-heated vessels, called evaporators. It is boiled by means of steam coils, and the vapor above the surface of the boiling solution is withdrawn by condensers, so that the boiling takes place in a partial vacuum which allows the water to be removed rapidly and economically. This evaporation is continued until there is no longer sufficient water present to hold the salt in solution, and practically all of it separates in the form of visible crystals. The steam is then turned off, which stops the boiling and allows these crystals to settle into the bottom of the evaporator. The crystalline salt is removed, washed free of caustic soda, and dried. It may be sold as an especially pure grade of salt or redissolved in water and returned to the cell for electrolysis.

The solution which is withdrawn from the vacuum evaporator contains about



50 per cent by weight of caustic soda, and some of this is sold to chemical manufacturers. The greater part of the solution from the vacuum evaporator is concentrated in large cast iron pots which are heated by direct fire from the burning of coal or oil. In these pots all of the water is driven out and molten caustic soda remains at a dull red heat. At this temperature the molten caustic is very fluid and is removed from the pot by a small centrifugal pump. This pump may discharge the molten caustic into large iron drums holding about 700 lbs. in which the caustic solidifies as a solid block. The hot liquid may also be pump-

ed over the surface of a revolving metal cylinder which is being cooled on the inside by water. As the caustic solidifies in a thin film it is scraped off in the form of flakes. For some uses a powdered form is more suitable and this may be prepared by grinding small lumps or crushing the flakes to small grains. Caustic soda is sold in cans containing but a few ounces as well as by the carload.

Products of Everyday Importance

The three products resulting from the electrolytic decomposition of salt have uses of direct everyday importance. Chlorine purifies our water and bleaches

our paper and many fabrics; caustic soda is used in making soap, artificial silk, in the treatment of textiles and for the refining of petroleum. It is also used in the production of lye, which is well known in many households. Hydrogen enters into the production of edible oils and fats and in the formation of synthetic ammonia, from which the familiar household ammonia is made.

It is interesting to note that there is no worthless by-product resulting from this process in which salt, a substance so common and plentiful in nature, is transformed into materials so useful to mankind.



SERVER REPRESENTING
APPLETON WOOLEN

Charles M. Server arrived on the Pacific Coast this spring to become the representative of the Appleton Woolen Mills of Appleton, Wisconsin, manufacturers of paper makers' felts and jackets.

For the past two years Mr. Server has represented the Holyoke Wire Cloth Company in Minnesota, Wisconsin, Michigan and Ohio. Previously he traveled the southern territory for the Morey Paper Mill Supply Company of Boston, selling all types of paper mill supplies.

At the age of fifteen Mr. Server began working on paper machines, following in the footsteps of his father and grandfather, the former a superintendent with the Northwest Paper Company, and the latter being at one time the superintendent of the Champion Coated Paper Company. Upon his graduation from the course in pulp and paper making at the University of Maine, Mr. Server worked through the various departments of the Miami Paper Company of West Carrollton, Ohio, now the Oxford-Miami Paper Company. Leaving there in March, 1927, he joined the Management, Engineering and Development Company where he worked on the engineering of seven different mills. After having obtained much experience in mill operation and in engineering Mr. Server engaged in the selling of pulp and paper mill supplies.

He is a nephew of Charles Frampton, superintendent of the California Fruit Wrapping Mills at Pomona, Calif., and

of Frank Frampton, vice-president and general manager of the Hopper Paper Company, Taylorville, Illinois.

Mr. Server maintains an office in the Terminal Sales Building in Portland, Oregon, and lives at the Congress Hotel.

LABOR FEDERATION ENDORSES PULP DUTY

The Washington State Federation of Labor at its annual meeting in Port Angeles July 10th, adopted a resolution urging Congress to adopt the Hill bill which would place a tariff on imported chemical pulp. In part the resolution said:

"No national economy is served by permitting low-paid north European labor, working for starvation wages as low as 8 cents an hour to take away much needed employment from American wage earners."

Another resolution was passed, introduced by D. C. Beck, president of the Pulp, Sulphite and Paper Mill Workers Local 171, Vancouver, Washington, which stated:

"Resolved that any products manufactured here (in America) from materials brought from foreign countries or any publication printed on foreign-bought paper shall designate by label or mark the amount of foreign material used and the name of the country from which it was purchased."

The measure pointed out earlier that "markets of the United States are being flooded by importation of cheap foreign products. . . and this practice is making it difficult for our own industries to survive. . . Citizens of the United States have no means of knowing when goods are foreign or otherwise unless they are marked as such."

Two international vice-presidents and one district organizer of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers attended the Washington State Federation of Labor convention.

Vice-President John Sherman of Port Angeles; Vice-President Herbert Sullivan of Worcester, Massachusetts, and Frank C. Barnes, district organizer of Longview were the brotherhood officials attending.

WEMPLE VISITS COAST

Mr. Holland R. Wemple, sales manager of the Texas Gulf Sulphur Company, New York City, visited the Pacific Coast the latter part of July and the early part of August, accompanied by Mrs. Wemple.

The Texas Gulf Sulphur Company is represented on the Pacific Coast by the Pacific Coast Supply Company with offices in Portland, Seattle and San Francisco.

OREGON FLAX CROP IS FAILURE

This has been a poor season for the growth of flax in the Willamette Valley in Oregon. As a result the Champagne Paper Co., of New York, which contracted for the plant of 1,200 acres to be used in the manufacture of cigarette paper, will obtain very little tonnage this season.

Harry H. Straus, president of the Champagne Paper Co., in a letter to flax growers said in part "we are not letting ourselves be discouraged from further attempts in flax growing in Oregon. While the failure of our flax crop in Oregon naturally is a great disappointment, we realize that it is to be ascribed to the weather conditions."

Mr. Straus may visit the Pacific Coast late this summer or early in the fall.

NEW ROSS VAPOR ABSORPTION BULLETIN

A new bulletin has just been completed by the J. O. Ross Engineering Corporation of 350 Madison Avenue, New York City, which fully describes and illustrates the modern Ross-Grewin Vapor Absorption System, of which there are now more than 150 installations in operation.

The Ross-Grewin High Pressure System not only materially reduces the pressure in the dryers but it affords even drying across the sheet, increases life of felts, eliminates wet streaks and economizes on steam consumption.

A copy of this bulletin will be gladly mailed to any interested executive without obligation. The Ross office on the Coast is located at 2860 N. W. Front Ave., Portland, Oregon.

PICKENS BACK

Dr. Russell Pickens, research director of the Rainier Pulp & Paper Company at Shelton, Washington, returned July 9th from a three weeks' trip East on business.

PACIFIC COAST PAPER MILLS INSTALLS NEW NAPKIN FOLDER

Late in July the Pacific Coast Paper Mills installed a new high speed napkin folder capable of turning out 150,000 napkins in six hours. The capacity of the new folder is double that of the present machine which will be retained in operation.

The new folder is the result of increased napkin business.

LIBBY WANTS PULP AND PAPER PROTECTION

The residents of Libby, Montana, have circulated a petition addressed to the Roosevelt administration asking that steps be taken to protect American pulp and newsprint industries from destructive foreign competition.

● One of a series of washers which purify the cellulose fibers in the mill of the Weyerhaeuser Timber Company, Pulp Division.



Pulp

IS ONLY AS PURE
AS THE WATER
WHICH
WASHES IT

■ To make a pure, stable pulp, the cellulose fibers must be washed free of all processing chemicals. Pulp is only as pure as the water which washes it. Millions of gallons of pure, neutral water are used daily in washing Weyerhaeuser pulp. The great volume of water thru efficient washing equipment in the manufacture of Weyerhaeuser Bleached Sulphite, endows the product with the characteristics of purity and neutrality.

**WEYERHAEUSER
STANDARD**

PULP DIVISION
WEYERHAEUSER TIMBER COMPANY
LONGVIEW, WASHINGTON

T · R · A · D · E · T · A · L · K

of those who sell paper in the western states

+ + + +

BLAKE, MOFFITT & TOWNE OPEN STOCKTON BRANCH

Printing and paper trades on the Pacific Coast have received with much interest the announcement that Blake, Moffitt & Towne, large pioneer firm of wholesale paper merchants, would open a division in the city of Stockton, Calif., August 1st. Reports have been current that the company was contemplating such a move and confirmation was recently secured when, in response to inquiries, Mr. O. W. Mielke, general manager of the company with headquarters in San Francisco, made this statement:

"For some time we have been impressed with the development and commercial possibilities of the city of Stockton and we want to very definitely be a part of the future of this section. Accordingly, we are very glad to announce that we are establishing a division at Stockton, which will be open and ready for business on August 1st. We have leased a building at 400 West Market street, at the corner of Van Buren, and work is now in progress fitting it up to serve as the modern and efficient paper warehouse office we will require to adequately serve the paper buyers of Stockton and vicinity. We are also pleased to announce the appointment of Lowell M. Heath as manager of our new Stockton division. Mr. Heath has for several years been our resident salesman in Stockton and with his wide acquaintance throughout the trade and his valuable experience in the paper business, we know he will be able to more effectively serve the requirements of our friends and customers through the facilities of the Stockton house. A prompt and efficient truck delivery system will be instituted to serve the trade within the city limits and in addition the counties of San Joaquin, Stanislaus, Tuolumne, Calaveras and Amador will be included in the territory covered from this point."

Blake, Moffitt & Towne is one of the largest paper organizations in the country as well as being the oldest in the business on the Coast, having been founded in San Francisco in 1855 and is consequently this year celebrating its 80th anniversary. The company handles a complete line of papers of all kinds; printing, wrapping, bags, paper products, twines and cordage, and represents as exclusive distributors many well known brands manufactured by nationally recognized mills.

In addition to the new division at Stockton and the parent house at San Francisco, Blake, Moffitt & Towne operate divisions located at Los Angeles, Seattle, Portland, Tacoma, Oakland, Fresno, Sacramento, San Diego, San Jose, Phoenix, Tucson, Boise and Salem.

MARYMONT DIES

Louis J. Marymont, 58, formerly manager of the Zellerbach Paper Co. branch at San Jose, Calif., died at Fresno, Calif., July 9. Mr. Marymont formerly operated the Marymont Paper Co. at San Jose and later sold to the Zellerbach firm.



LYNDEN TRIBUNE WINS PAPER AWARD

The Lynden Tribune of Lynden, Washington, of which Mr. S. H. Lewis is editor and publisher, has been awarded for 1934-1935 the Award of Excellency plaque, given "For Highest Standard Maintained as an All Around Newspaper," in the state of Washington.

The award was donated by a group of seven Seattle and Tacoma wholesale paper merchants to stimulate interest in the Better Newspaper Campaign conducted by the Washington Press Association. The following merchants contributed toward the plaque and their names are engraved thereon: Blake, Moffitt & Towne, Seattle; Carter, Rice & Company, Inc., Seattle; Northern Paper Company, Tacoma; Zellerbach Paper Company, Seattle; Standard Paper Company, Tacoma; Tacoma Paper & Stationery Company, Tacoma, and the West Coast Paper Company of Seattle.

The plaque will be awarded yearly to the Washington state newspaper judged as having maintained the highest standards during the previous year and the winner's name will be engraved on the silver shield.

TWO NEW GENERAL MEN

General Paper Co., San Francisco, has added two new salesmen, making 17 on their Northern California list. The two new men are Jack Wichman, formerly an importer and exporter, and D. R. Blanchard, previously with Graham Paper Co. and S. D. Houghtelin Paper Co.

EVERETT MOVES SALES OFFICE TO SAN FRANCISCO

J. L. Murray, sales manager of Everett Pulp and Paper Co., has transferred his office from Everett, Wash., to San Francisco, according to announcement of President Wm. Howarth. Henceforward Mr. Murray will be headquartered at the California street offices of the firm, supervising the activities of the San Francisco office in addition to his accustomed responsibilities as sales manager of both the main mill and stationery departments of the business.

This change is coincident with the resignation of John T. Pope as San Francisco representative. Mr. Pope is leaving San Francisco shortly for Honolulu, where he has accepted a position in the paper jobbing business.

Enlargement of the scope of the San Francisco office reflects its central location in the coastwide activities of this manufacturing enterprise and its convenience for the frequent trips East Mr. Murray is called upon to make. He plans to get his family located in San Francisco within a month.

John T. Pope, who has been in charge of Everett's San Francisco office, sailed on July 26 aboard the "President Lincoln" for Honolulu to enter the employ of the Honolulu Paper Co., of which Stanley Taylor is manager and Ted Oliphant sales manager. Mr. Pope has resigned from the Everett company after sixteen years of service and is leaving the mill end of the paper game to get into the jobbing end.

MISS GRIFFITH


Miss E. G. Griffith, well-known in paper trade circles in San Francisco, has become the secretary of B. P. Jaggard of the Hammermill Paper Co. and the Grays Harbor Corporation at his offices in the Dollar Building in the northern California metropolis. Miss Griffith formerly was with Blake, Moffitt & Towne, R. C. Bishop, San Francisco paper mill representative and the Pacific Coast Envelope Co.

HAMMERMILL MEETING

Four Pacific Coast men will attend the 1935 annual meeting of the agents of the Hammermill Paper Co. at Erie, Pa., Aug. 21 and 22. They are J. F. Weunchel, Pacific Coast sales manager for Hammermill, Victor Hecht and Frank Stratford of the San Francisco office of the Zellerbach Paper Co. and Ernest Ferris, San Diego manager for Zellerbach.

MIELKE AND TOWNE

O. W. Mielke, general manager of Blake, Moffitt & Towne, San Francisco, was at the firm's Los Angeles office for a week in August on a routine trip. Arthur W. Towne, San Francisco manager of the company, spent a week-end at the Bohemian Grove on the Russian River attending the annual outdoor play of the Bohemian Club.



PUGET POWER
says
**"A FACT,
NOT
BALLYHOO"**

The use of electricity per residential customer served by us has more than doubled since 1923, while the average customer cost per kilowatt hour for this class of service has been cut almost in half.

**PUGET SOUND POWER
& LIGHT COMPANY**
"To best serve the public interest"

ZELLERBACH BUILDING NEW L. A. WAREHOUSE

A new \$300,000 warehouse and office building is to be built by the Zellerbach Paper Co. on the southeast corner of East 12th and Evergreen Streets, Los Angeles, it is announced by E. A. Breyman, vice-president. When completed, the building will house the Los Angeles division of the Zellerbach Company, now located at 220 South Los Angeles Street. Mason Olmsted is manager of the division.

The Zellerbach company has contemplated this construction for more than a year and plans were drawn by Leland S. Rosener, San Francisco consulting engineer.

Special attention has been given to the design of the building to assure economy in material handling and speed in the servicing of orders. The warehouse will contain approximately 200,000 square feet of floor space. Construction will be of concrete with sawtooth roof effect. Plans and specifications were sent out recently and bids were submitted August 7. Ground breaking exercises will be held perhaps in September.

East 12th and Evergreen Streets is located across the Los Angeles River from the main business section of the city and is a few blocks from the Crown Willamette Company's new building here.

TWELLIGER DIES

Bert Twelliger of Ward, Davis & Dunn, Los Angeles and Long Beach paper merchants, passed away early in July. He was a man of long experience in the industry and leaves a host of friends among jobbers and printers.

JOHNSON ADDS NEW ACCOUNT

Augustus Johnson, San Francisco, paper mill representative, has just become Pacific Coast representative for the Falulah Paper Co. of Fitchburg, Mass., manufacturers of coated bonds. Falulah recently took over the Merrimac Paper Co. of Lawrence, Mass.

MACORMACK EAST

T. C. Macormack, San Francisco, recently visited the three eastern mills he represents — Strathmore Paper Co. of West Springfield, Mass.; Rising Paper Co. of Housatonic, Mass., and the Old Colony Envelope Co. of Westfield, Mass. Mr. Macormack left August 9 to return home and was met by his wife in the Pacific Northwest for the trip down the coast.

REID STARTS BROKERAGE BUSINESS

Ralph Reid, formerly with the Glass Sales Agency, Los Angeles, has gone into the paper brokerage business for himself, and is now located at 839 Traction Ave., Los Angeles.

ZELLERBACH ADDS DIRECTORS

Zellerbach Paper Co., San Francisco, announces the addition of two to its board of directors. They are T. J. Finerty, general sales manager of the firm's wrapping paper division and Phillip S. Ehrlich, legal counsel for the company.

A thirty-year service pin recently was awarded by the Zellerbach Paper Co. to Claude Zamloch, credit manager of the firm's Oakland division.

L. A. MILL REPS MEET

The paper mill representatives group of Los Angeles met at the Terminal Club on July 18 in one of the semi-monthly noon business meetings, and completed plans for the hi-jinks for the jobbers to be held at the Brentwood Country Club, September 6.

Lester Remmers of the Crown Willamette Paper Co. is in charge of arrangements, which include golf, dinner, appropriate entertainment and all the things that go to make up a good time for the tired business man.

The executive committee of the organization met the middle of August to complete plans for the meeting. No regular August meeting was held by the association, in view of the double-barreled treat scheduled for September 6.

ZELLERBACH ACQUIRES SHELLMAR

Western Shellmar Products Co. is now one of the Crown Zellerbach Corporation subsidiaries and plans the immediate construction of a new plant at 1311 63rd St., Oakland, for the conversion and printing of Cellophane transparent papers, manufactured by the E. I. du Pont de Nemours Co. E. A. Delue, formerly western representative of the Shellmar Products Co. of Mt. Vernon, Ohio, has joined the sales staff of the Zellerbach Paper Co., which will be exclusive selling agents for Western Shellmar in the eleven western states. It is expected the plant will be in operation in November.

There's a Reason Why

The Terminal Sales Building

Is Now Portland Lumber Headquarters

The following lumber and affiliated companies have their Portland offices here:

Abbey's Lumber Register	Knappton Towhead Co.
Wm. H. Anderson	Leigh Lumber Co.
W. B. Barton Logging Co.	MacDonald & Harrington Lbr. Co.
Birkenbeul, E. B. (Patents)	Manning-Crown Lumber Co.
Blanchard Lumber Co.	Missouri-Pacific R. R. Co.
Booth-Kelly Lumber Co.	Mt. Hood National Forest
Bradley-Woodard Lumber Co.	Murphy, Inc., Ernest Cullen
Bridal Veil Timber Co.	Nelson Steamship Co.
P. J. Brix & Associates	Pacific Pulp & Paper Industry
Buoy & Cutler	Patrick Lumber Co.
Campbell & Moore Lbr. Co.	Rankin-Benedict Underwriting Co.
Canadian National Ry. Co.	W. S. Russell
Clackamas Fir Lumber Co.	Shell Oil Co.
Cobb & Mitchell Lbr. Co.	Snider Shingle Sales Co.
Collins, E. S., & Associates	Stevens & Bruce
F. S. Cutler & Co.	Stoddard, E. I.
D. L. & W. R. R. Co.	Taylor Instrument Co.
Elrod, J. O., & Associates	Tech. Assn. Pulp & Paper Ind.
Edward Hines Pacific Coast Lumber Co.	Templeton Lumber Co., H. A.
General Appraisal Co.	Thompson Lumber & Piling Co.
Hammond Lumber Co.	U. S. Epperson Underwriting Co.
Hodges, W. S.	Vaughan Lumber Co.
Holland, Briggs & Noyes	West Coast Lumberman
Hyman-Michaels Co.	Weyerhaeuser Timber Co.
Illinois Central R. R. Co.	G. H. Wheeler Lumber Co.
International Lumber Co.	E. K. Wood Lumber Co.
Jackson Lumber Co., J. L.	
Jannin, Roy, Lumber Co.	



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FOREIGN NEWS OF INTEREST TO THE PACIFIC COAST

About 90 per cent of the paper consumed in France is manufactured from imported raw materials, according to an article appearing in *La Journal Industrielle* of June 18, 1935. In view of this dependency upon foreign raw materials, it is argued that the wood pulp industry should be developed by means of a protective tariff, construction of new wood pulp mills and reforestation. The general argument is in line with the prevalent theories of national self-sufficiency. Imports of wood for papermaking during 1934 were as follows:

	Metric tons
Pulpwood	332,000
Mechanical pulp	139,000
Sulphite, unbleached	206,000
Sulphite, unbleached	59,000
Bleached pulp	110,000

Great efforts have been made over the past fifteen years to render France independent of foreign countries for its supplies of pulp and paper. Four mills were established for manufacturing chemical pulp from maritime pine in the Department of Landes. Plants manufacturing mechanical pulp and straw pulp were also built. Unfortunately, most of these have had to close or are in a precarious position. In the Department du Nord, there are relatively large paper mills turning out their own mechanical pulp from imported wood. Three plants were established in central France fairly recently which produce both paper pulp and tanning extracts from chestnut wood.

AUSTRALIA

An expenditure of £1,000,000 in establishing a paper industry in Australia is contemplated within the next two years, according to a recent report from Trade Commissioner E. C. Squire, Sydney. Press announcements state that the new projects contemplates the manufacture of fine printing and writing papers and pulp, utilizing the Australian eucalyptus as a raw material. Amalgamated Zinc (De Bavays) Ltd., through the Tasmanian Paper Proprietary Ltd., and Australian Paper and Pulp, through Australian Paper Manufacturers Ltd., are very largely interested in this enterprise. The third party is a group (formerly non-newspaper members of Paper Makers Ltd.) who have rights to property and timber interests at and near Burnie, Tasmania. The whole of the capital required will be subscribed privately. It is considered probable, however, that both Amalgamated Zinc and Australian Paper will themselves make public issues of debentures or shares later in order to provide the necessary capital for financing the project. Three sites are under consideration as the location of the mill, namely, at Eden, New South Wales; Kermadie, Southern Tasmania, and Burnie, Northwestern Tasmania. The manufacture of newsprint paper is not contemplated in the present plans.

GERMANY

Seventy thousand tons of staple fiber have been forecast as Germany's contribution for the year 1935. The determination to develop this industry to the magnitude of a chief, rather than an auxiliary, source or raw textiles supply, is borne out by new foundations and important extensions of existing plants. The Vereinigte Glanzstoff Fabriken contemplated construction during 1934 of a plant in Kassel with an annual production capacity of 18,000 metric tons. The new foundation has been incorporated as "Spinnfaser A. G.", with a capital stock of 7,500,000 marks. Two staple fiber plants are being organized in Kehlheim on the Danube, and one in Hirschberg in Silesia. These three new foundations are not to be controlled by the rayon industry but by the cotton textile industry. Contrary to popular assumption, the Reich is not lending any financial assistance to the staple fiber industry. The textile mills are reported to possess unusually large liquid funds as a result of the great buying wave in 1934 that assumed at times near-panic characteristics. The rayon industry has also been able to book unusually high gains which are being invested in important extensions to plant capacity. With the actual and planned extensions of the staple fiber industry, an output of 70,000 metric tons of staple fiber is expected to be attained before the spring of 1936, compared with a production of 10,000 tons in 1934.—BUREAU OF FOREIGN AND DOMESTIC COMMERCE.



Clipping the Corners Off the Felt Bill

It is rather significant that recent tests should show Orr Felts outlasting felts with which they were compared—outlasting them, not by hours, but by as much as several days.

Figured over a year's operation, such a difference in durability takes on deep significance—points the way for those interested in curtailing expense wherever it can be sensibly done.

Clipping the corners off felt bills by adopting the particular felt that will deliver the greatest service is well worth the consideration of any mill—and is now receiving that consideration in many of them.

Orr Felts are built to remove water faster and serve longer. They are available in any texture and any size you may require.

A complete line — An Orr for every machine requirement.

Pacific Coast Representative: WALTER S. HODGES
414 Terminal Sales Bldg., Portland, Oregon

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